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ACCESSIBLE HOUSING



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ACCESSIBLE HOUSING

A Manual on North Carolina's Building Code
Requirements for Accessible Housing

NOV 20 1980

Special Office
for the
Handicapped

Insurance Commissioner's Office
North Carolina Department of Insurance

1980

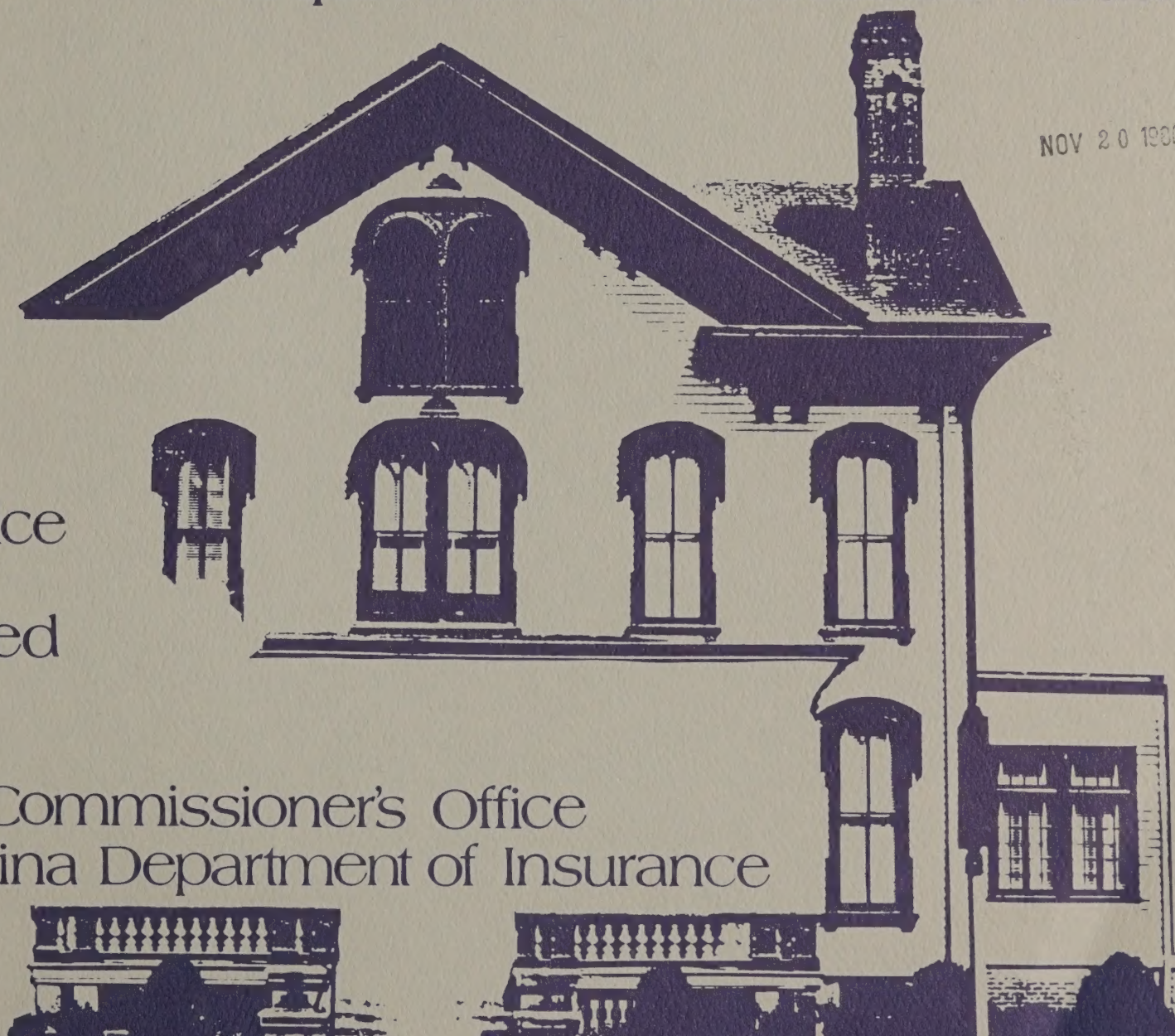




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(without illustrations)

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By Statute the Commissioner of Insurance has general supervision of the administration and enforcement of the North Carolina Building Code and the Engineering Division serves as the staff for the Building Code Council. Officials of the Insurance Department are:

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Commissioner

Kern E. Church, P.E.
Deputy Commissioner
Engineering and Building Codes and
Secretary to Council

Special Office for the Handicapped

The Special Office for the Handicapped has been established within the Engineering and Codes Division of the North Carolina Department of Insurance for the purpose of general administration of the building code requirements for the handicapped.

The Office, staffed full time by an architect, provides interpretations, technical advice, and information on compliance with North Carolina code and legislative requirements for the handicapped.

For more information write or call:

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Preface



Accessibility requirements for housing have been part of the North Carolina State Building Code since 1973. Since then, experience has indicated a need for a separate explanation of those requirements. This publication has been produced by the Special Office for the Handicapped in an effort to clearly define and illustrate those housing requirements. It is intended to better inform the building community and those seeking accessible housing of pertinent code requirements.

The material presented here includes:

1. **Code requirements**— specific code requirements for different types of housing.
2. **Acceptable alternates**— design features differing from the special code regulations which have been evaluated by the staff of the Engineering Division and determined to provide an equivalent degree of accessibility and which may be more economical or flexible.
3. **Adaptable features**— design solutions for the code requirements in Section 5.3, residential units for rent or lease, which allow elements to be constructed in a more standard manner and which make it possible, with a minimum of effort, to make the facility accessible to disabled people when necessary.
4. **Recommendations**— suggested additional features which, if installed, will make housing units convenient and usable by more people. These are included for those who wish to go beyond minimum code requirements in providing accessible housing for disabled people.

This publication illustrates and explains those items explicitly stated in the residential portion of 11X—the Handicapped Section of the N.C. State Building Code.

In addition, it gives an abbreviated version of the general requirements from the full Handicapped Section of the Code that must be met with regard to accessible housing. These general requirements are simplified and the user is advised to refer to the entire Handicapped Section 11X for substantial detail on these general requirements and, in some instances, other allowable alternatives. The full illustrated version is published separately as *An Illustrated Handbook of the Handicapped Section of the North Carolina State Building Code* and included in Volume I, *General Construction*, 1978 edition. A complete but non-illustrated copy of Section 11X is included in Appendix B of this book for reference.

Tax Advantages

The State of North Carolina provides certain tax credits and deductions to owners of housing who make their buildings accessible to the disabled.

G.S. 105-130.5 allows **deductions** for renovating public use areas to make them accessible to the disabled.

This law states that if any area used by the general public within a housing complex is modified to make it accessible to disabled people, the owner may deduct the full cost of that modification from his federal taxable income when determining his State net taxable income.

G.S. 105 - 130.22 and **105 - 151.1** provide **tax credits** to owners for compliance with the housing provisions of the Handicapped Section of the North Carolina State Building Code.

These tax laws allow owners to subtract \$550 from their State tax for each dwelling unit built in accordance with the housing provisions of the Handicapped Section of the North Carolina State Building Code. This credit may be taken only on the number of dwelling units which were required to be built in compliance with the Handicapped Section of the Building Code and were completed during the taxable year.

In order to take advantage of this tax credit the owner must file with his tax return a copy of the occupancy permit on which the building inspector has recorded the number of dwelling units constructed which comply with the handicapped provisions of the North Carolina State Building Code. The inspector must also file a copy of the same occupancy permit with the Special Office for the Handicapped.

Note to Designers and Owners of Buildings

The goals of the physically handicapped person are to have access to and throughout all buildings so they can live a more normal life and assume full responsibilities as citizens. This goal is shared by everyone.

The application of building regulations by designers and owners should take into account the safety of all occupants including the physically handicapped. Elevators are usually incapacitated early in a fire, and they are not counted as means of egress. Since the physically handicapped need assistance to negotiate stairs in exiting a building, designers and owners of buildings should consider specially designed spaces for the physically handicapped on a level where an approved ramp to grade is provided so the handicapped may exit the building without assistance. If this is not possible, designers and owners should consider the normal use of the building while the physically handicapped occupy it to assure provisions for a sufficient number of able-bodied persons readily available to assist the physically handicapped in the evacuation from such spaces down the stairs and other means of egress provided as exits in case of a fire or other emergency.

SI Conversion Units

In view of the present accepted practice in this technological area, U.S. customary units of measurement have been used in this report. It should be noted that the U.S. is a signatory to the General Conference on Weights and Measures which gave official status to the International System of Units (SI) in 1960. Readers interested in making use of the coherent system of SI units will find conversion factors in ASTM Standard Metric Practice Guide, ASTM Designation E380-72 (available from American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103).

Conversion factors for units used in this publication are:

Length: 1 in. = 2.540 cm, 1 ft. = 30.480 cm

Weight: 1 lb. = 453.00 g

Temperature: °C = 5/9 (Temperature °F - 32)

There are no mandatory minimum requirements for one- or two-family detached dwellings and condominiums. Recommended suggestions are given in the appendix on page 62. Special consideration of accessibility is encouraged in all new residential projects.

NOTE: Retirement communities should always be designed to be accessible.

One- & Two-Family Detached Residences & Condominiums 5.1



In publicly-owned residential projects, hotels, motels, residential, school or institutional projects, the *public spaces* must comply with all the requirements of the Handicapped Section of the North Carolina State Building Code. In addition 5% or a minimum of one of the *residential units* in these types of buildings must meet the accessibility requirements listed below.

For example, in a hotel, all spaces and facilities used by the public such as parking, walks, lobby, signage, elevators, restaurant, bar, meeting rooms, lounges, and restrooms, must meet all of the requirements of the Handicapped Section of the Code, but only 5% of the sleeping or residential units must be accessible. These rooms must not be segregated from other units.

The requirements that must be met in these accessible units are the following: 1.—5. General Requirements and specific requirements of 6. Bathrooms and 7. Kitchens.

1. Doors into the unit must provide a 32" clear opening (11X)4.3.
2. A 1'-0" minimum clear space at the pull side of the door must be provided (11X)4.3.
3. All door hardware must be of the type that is easy to operate (11X)4.3.1.

4. Floors within the unit must be on a continuous level or be accessible by means of a ramp, approved lift, or elevator (11X)4.5.
5. Controls must be located within easy reach of a seated person (11X)4.11.
6. Where *bathrooms* are provided they must meet the requirements outlined on pages 13 through 20 (11X)5.2(a).
7. Where *kitchens* are provided they must meet the requirements outlined on pages 21 through 24 (11X)5.2(b).

The "general" section presented here is a topic list of the N.C. Code Requirements which apply to housing. The user is cautioned to refer to the full code for more detailed information about the general requirements.

The requirements in this section apply to all of the following:

publicly-owned multifamily housing,
and both publicly- and privately-owned
hotels and motels,
dormitories,
hospitals, nursing homes, and other institutional occupancies,
and schools with residential units.

Distribution of Units

Residential units accessible to the physically handicapped must not be segregated from other units. For example, in large apartment complexes all the units for the disabled may not be placed in one building but must be dispersed throughout the complex. Similarly, in hotels, all the sleeping rooms for the handicapped should not be placed on the same floor.

Publicly-Owned Residential Projects & Privately-Owned Hotels, Motels, Residential School & Institutional Projects 5.2

* accessible garbage collection area

5% of the residential or sleeping units must be accessible

public and employee spaces must be accessible

ground level entrance

curb ramp

* access aisle

2% of the total number of parking spaces must be designated for the handicapped

signs to identify parking spaces for the handicapped

Items in **bold type** are code requirements; those in lighter type are * recommended but not required.

5.2 Site Considerations

5.2 General Requirements

1. The door must be a minimum of 32" in clear width so that a person in a wheelchair may pass through the doorway without scraping his knuckles. A wheelchair for an adult averages 27" in width. The required 32" clear door width allows 2½" clearance on each side for hands.

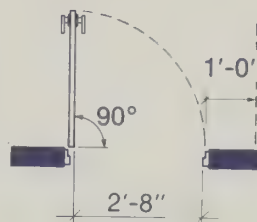
2. 1'-0" minimum is required on the pull side of the door to permit a person using a wheelchair or walking aid to move close to the handle of the door, pull it open, and then go through the doorway. Attempting the maneuver without benefit of the 1'-0" space is very difficult because the person must pull the door open and at the same time back out of the way of the door.

3. Doors must be operable by a single effort. They must not require several motions such as pushing down on a thumb latch while at the same time pushing the door open. Some people may have difficulty using their hands and cannot grasp, twist, or pull sufficiently to open doors which have smooth, round or other difficult-to-grasp knobs. Lever-type handles are preferred because they can be operated by a single, non-precise movement.

Doors which do not require latches are also preferred. Where locks may be desired as on bathroom doors, an inexpensive lever handle with lock is readily available.

1. Door clearance

The 2'-8" clear opening must be between the door in its 90° open position and the face of the stop.



To achieve a 2'-8" clear opening usually requires the installation of a 2'-10" or 3'-0" wide door.



2. Space to the side

1'-0" required on the pull side of the door.

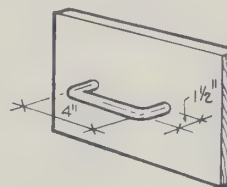


The door cannot be opened without backing the chair.

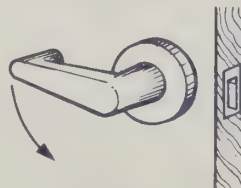
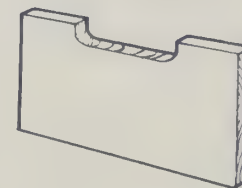
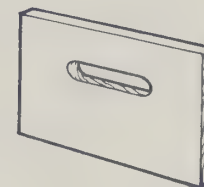


3. Door and drawer hardware

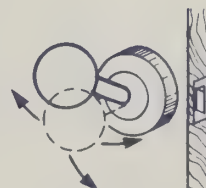
for non-latching doors and drawers



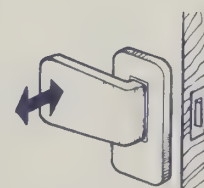
for latching doors



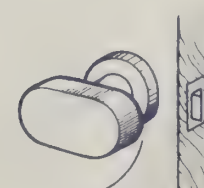
lever



toggle



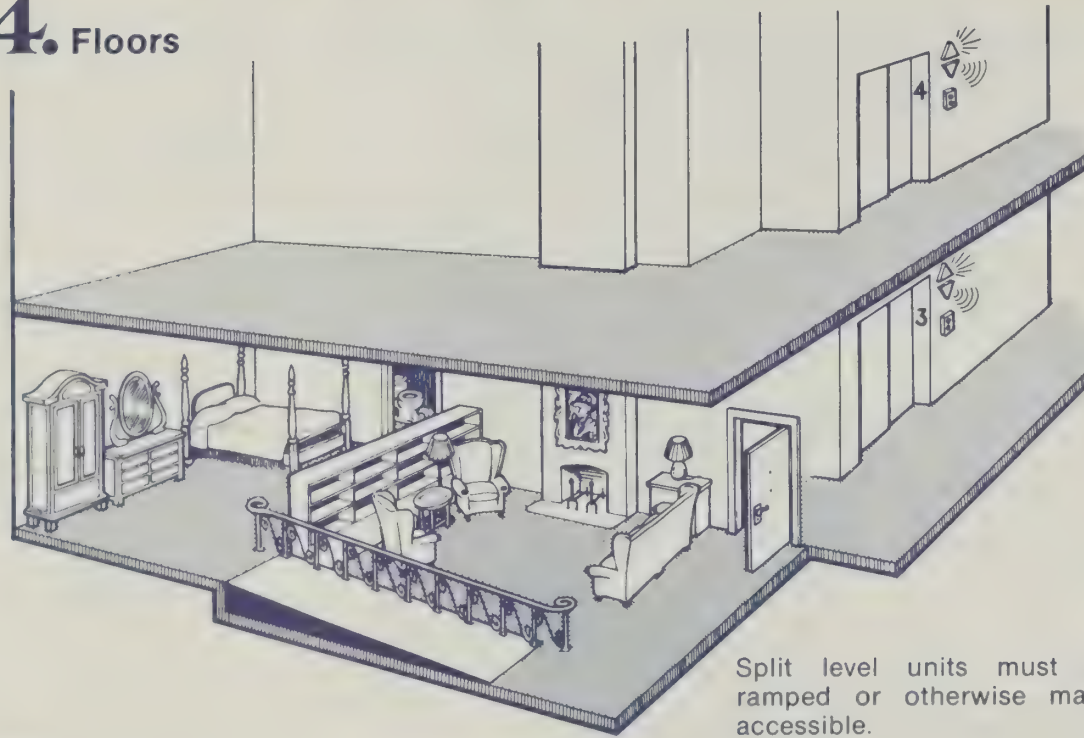
push-pull



elliptical

5.2 General Requirements

4. Floors

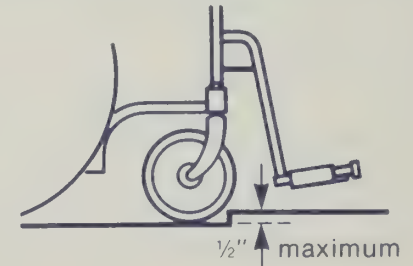


Split level units must be ramped or otherwise made accessible.

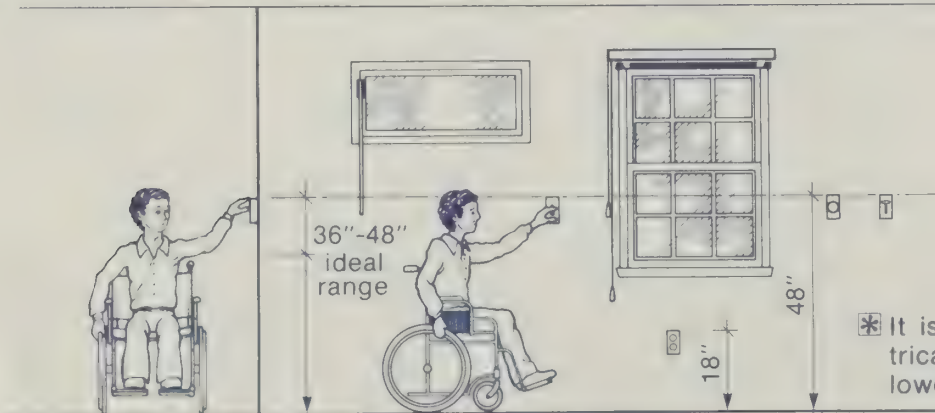
4. Floors on the same story must be a common level throughout. This means there must be no abrupt changes in level of more than $\frac{1}{2}$ " unless the two levels are made accessible by means of a ramp, approved lift, or elevator.

NOTE: In hotels it is especially important that meeting rooms and toilet rooms be reachable without having to use stairs.

Careful attention should be paid to thresholds to ensure that they too do not have abrupt changes greater than $\frac{1}{2}$ ". Vertical level changes greater than $\frac{1}{2}$ " obstruct small wheels of a wheelchair and may trip people who walk with difficulty.



5. Controls



* It is recommended that electrical outlets be located no lower than 1'-6" from the floor.

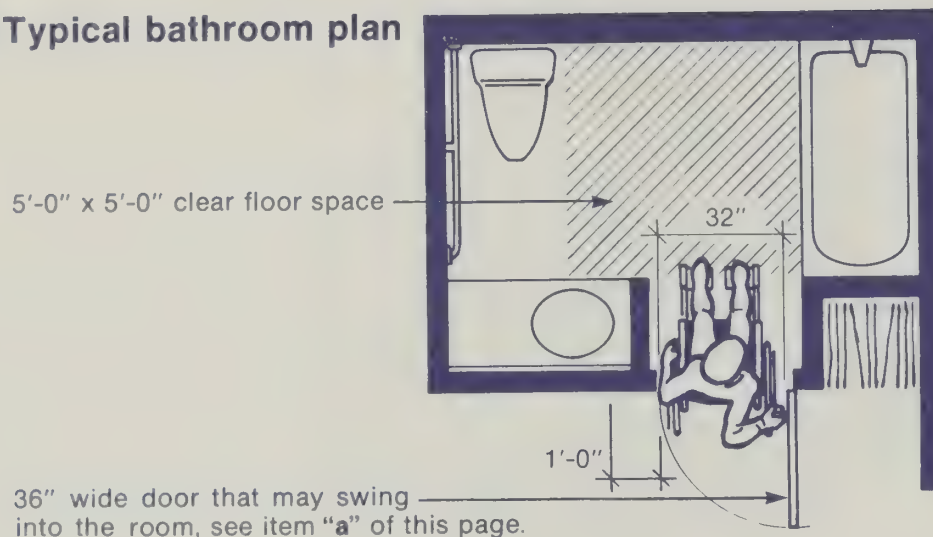
5. All control devices for light, power, heat, fire alarms, thermostats, ventilation, windows, draperies, doors, and similar controls must be mounted so that the operating mechanism is no higher than 4'-0" from the floor.

- 6.** Where bathrooms are provided as part of the accessible residential unit, the requirements for bathrooms are as follows:
 - a.** Doors must have a 32" clear opening.
 - b.** The interior of the room must have a 5'-0" x 5'-0" clear floor space.
 - c.** Large toe spaces for cabinets must be installed.
 - d.** Standard toilet fixtures with 16½" to 20" seat height must be used.
 - e.** Grab bars must be provided at toilets.
 - f.** Walls around tubs must be capable of being equipped with grab bars that can support 250 pounds.
 - g.** Water temperature at the lavatory must be no more than 120° or the pipes must be insulated.
 - h.** Where provided, mirrors, shelves, towel racks and dispensers must be mounted not to exceed 40" above the floor.

Bathrooms 5.2

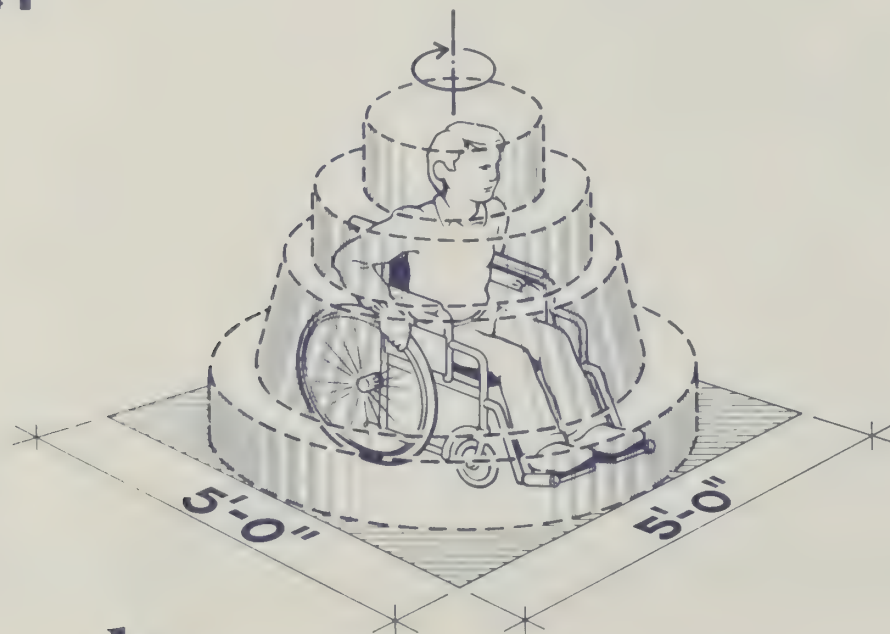
5.2 Bathrooms

a. Typical bathroom plan

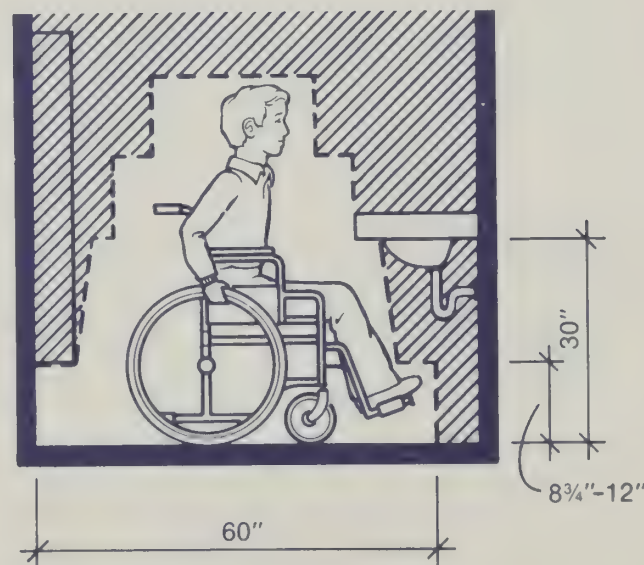


a. The toilet room door must either slide or swing out of the room. As toilet and bathrooms are usually small in size, there is rarely enough room to be inside the bathroom in a wheelchair and to maneuver to close an inswinging door. However, doors may swing in if they do not overlap the 5'-0" x 5'-0" clear floor space described below. Sliding or pocket doors are useful where doors would swing into halls or traffic paths.

b. A 5'-0" x 5'-0" clear floor space is required for a person using a wheelchair to make a 360° turn. The largest area necessary to turn around is at the floor level. The space required for turning decreases at the ankles and again at the waist.



b. Required clear space for turning



Fixtures may overhang the 5' x 5' clear floor space as shown.

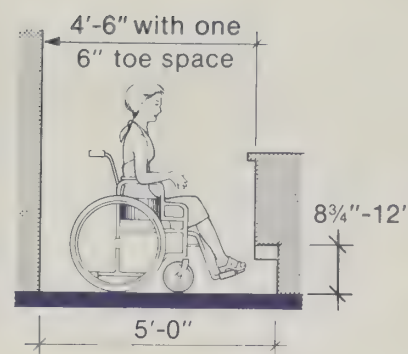
5.2 Bathrooms

- C.** All cabinets in the bathroom must have toe spaces that are at least 8 $\frac{3}{4}$ " high and 6" deep. However, several acceptable alternates are available. If the 5'-0" x 5'-0" clear floor space can be maintained with no base cabinets encroaching on the 5'-0" x 5'-0", then large toe spaces in bathroom cabinets are not required.

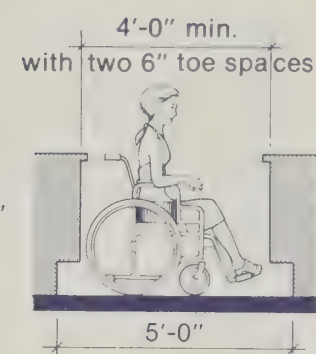
If toe spaces are provided, it is recommended that the vertical dimensions be larger than 8 $\frac{3}{4}$ " so the space will be usable by a greater number of people who use wheelchairs.



Yes

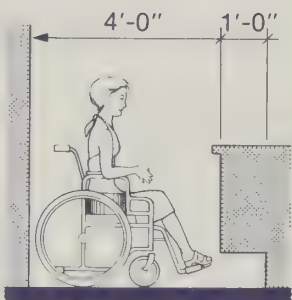


Yes



Yes

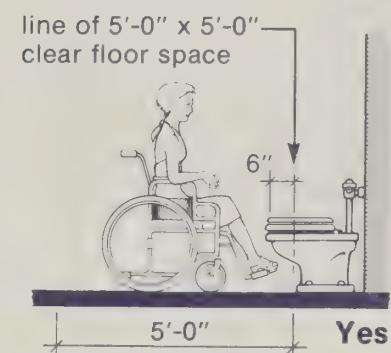
- d.** A standard toilet, with its seat between 16 $\frac{1}{2}$ " and 20" above finished floor may be used. Wall-hung toilets should be used where possible because wheelchair foot-rests may slip under the bowl and thus facilitate transfer onto the fixture. Where a floor mounted toilet is used it should be of the type that has a deeply recessed base.



No

C. Toe spaces

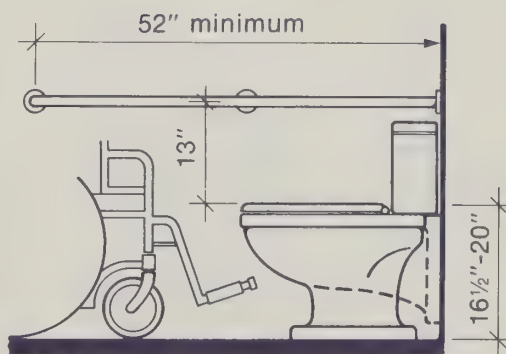
If toe space is provided, it may be as deep as desired, however only 6" along one wall may be calculated as part of the 5' x 5' clear floor space.



Yes

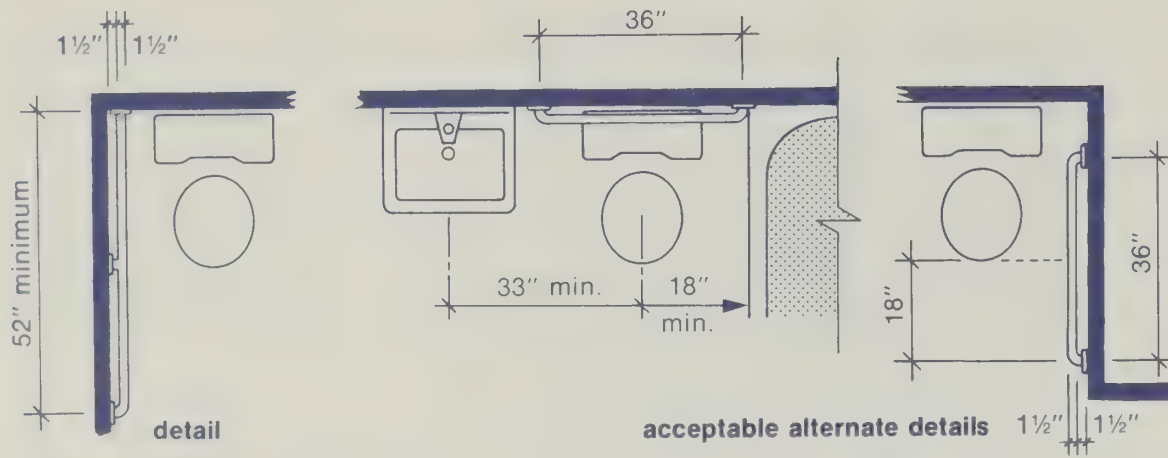
Toe space under wall-hung or floor mounted fixtures may replace 6" of clear floor space.

- e.** Grab bars made of stainless steel or chrome must be installed on the wall adjacent to the toilet. The bars must be positioned 13" above the toilet seat, must be 52" long minimum and 1 $\frac{1}{2}$ " in diameter. There must be 1 $\frac{1}{2}$ " clearance between the grab bar and the wall and they each must be capable of supporting at least 250 pounds.



- d.** Standard toilet fixture
e. Grab bars at water closets

5.2 Bathrooms



Bar mounted on side wall (stainless steel or chrome handrail 1½" diameter, 1½" from the wall, 52" long minimum)

If the toilet is placed where there are no side walls, a 36" bar may be placed on the back wall.

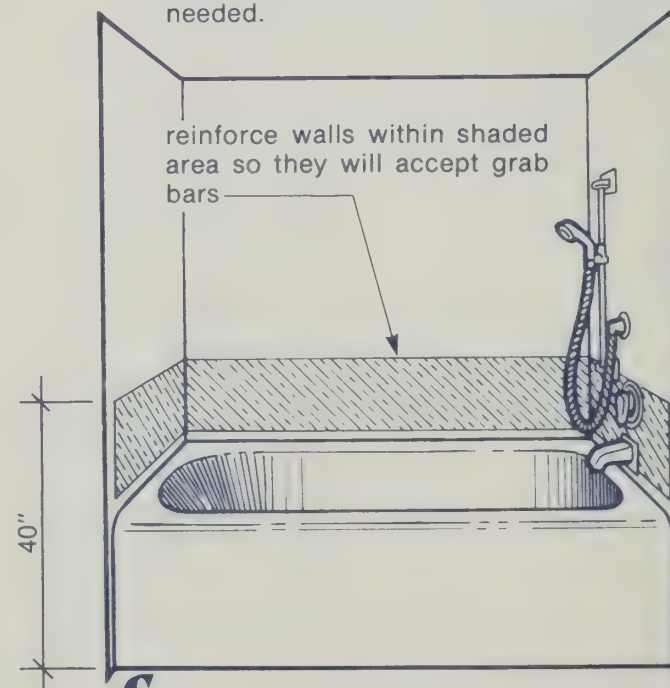
A 36" bar may also be mounted on a short side wall.



grab bars, when mounted, must be capable of supporting 250 pounds

Since the grab bars are required on each side wall, if the the toilet is adjacent to only one wall, one grab bar is required. If it is located where there are no side walls, a similar bar at least 36" long must be mounted on the back wall 13" above the toilet seat or high enough to clear the toilet tank.

- f.** The Code requires that all bathroom walls be capable of supporting handrails which can support a 250 pound load. An alternate acceptable solution is to reinforce walls around water closets where grab bars are required and around tub walls so grab bars can be added when needed.

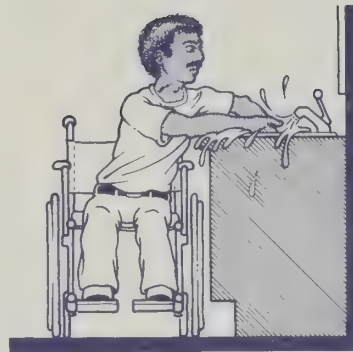


- f.** Reinforcing for grab bars at tubs

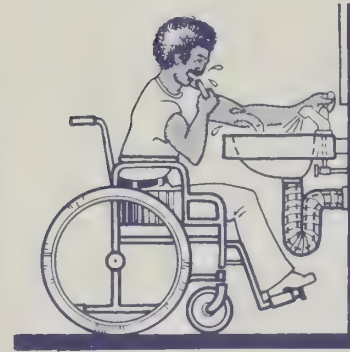
5.2 Bathrooms

- g.** The temperature at lavatories must not exceed 120°F, or exposed hot water lines and drains must be insulated to prevent burns on persons with little or no sensation in their legs.

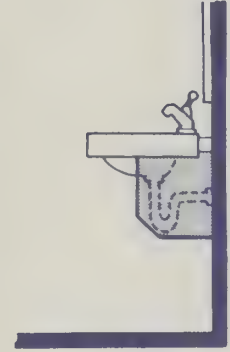
If lavatories are placed in vanities with covered fronts, the water temperature does not need to be reduced nor do the pipes require insulating. If wall-hung lavatories or lavatories placed in countertops with knee spaces are installed, some protective measures must be taken. To avoid unsightly exposed wrapped pipes, a mixing valve with temperature limiting device could be installed.



inside vanity



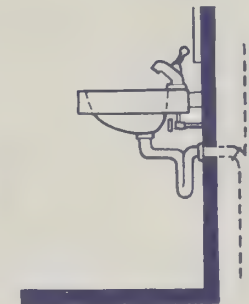
wrapped



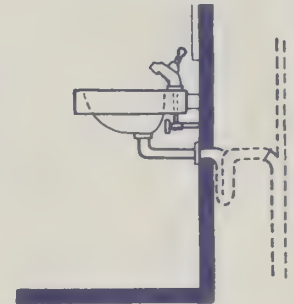
covered

g. Insulated lavatory piping

The piping does not prevent a person in a wheelchair from pulling up under the lavatory. Neither of these solutions require insulation nor reduced water temperature.



set back



recessed in wall

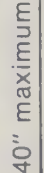
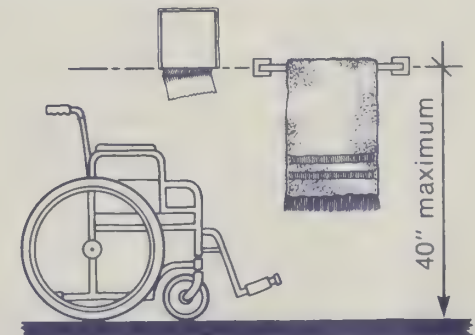
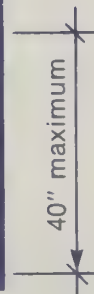
- h.** When provided, mirrors placed over lavatories shall be mounted so that the bottom edge is no higher than 40" above the floor to permit a small person or someone seated in a wheelchair to see to comb their hair, shave, apply make-up, etc. If the mirror is tall enough, it will also work well for standing people. Tilt mirrors are discouraged because when in a position to be usable by a person in a wheelchair, they do not work well for a standing person. Tilt mirrors with moving parts may be subject to vandalism.

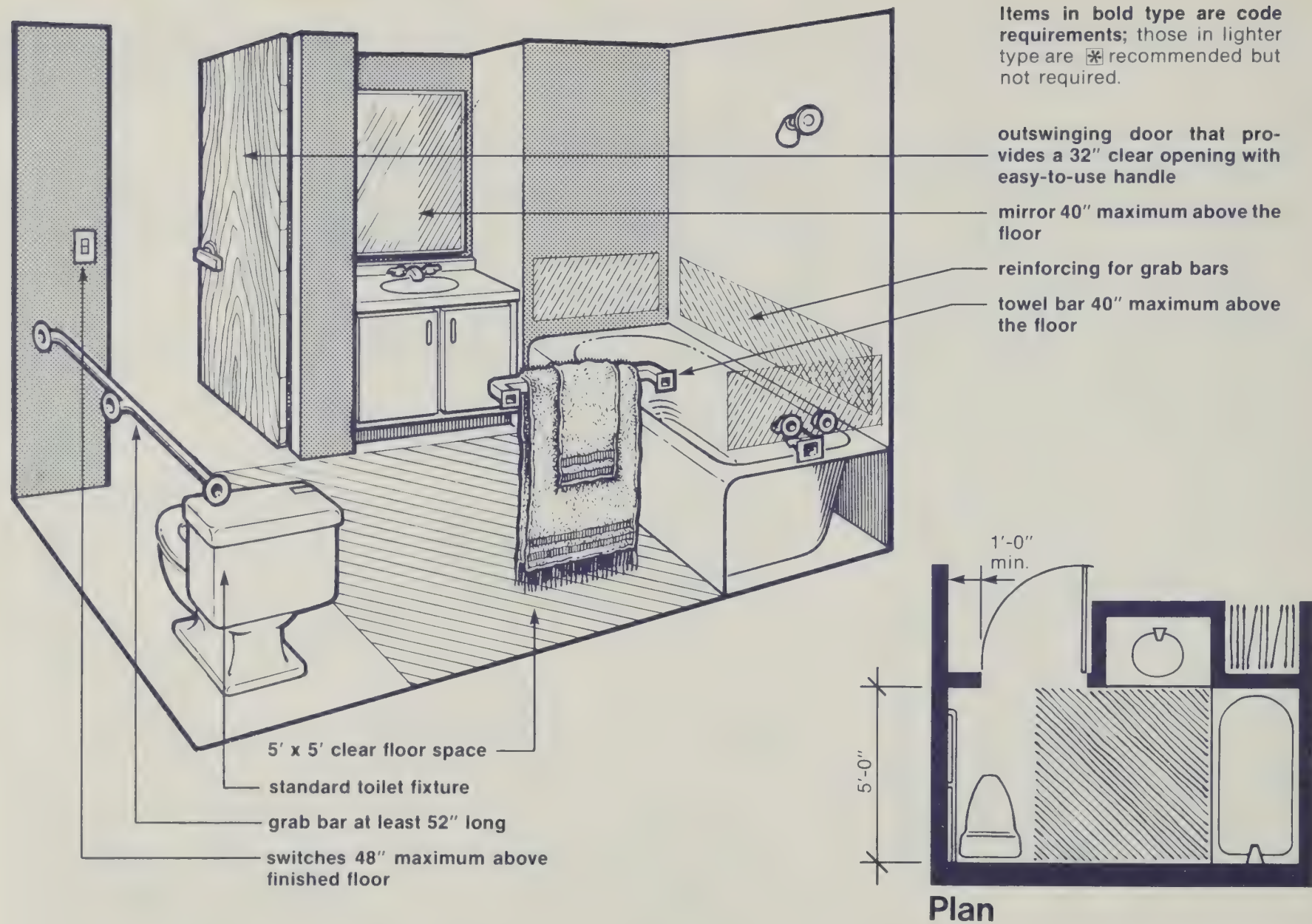
Towel storage racks (like those often used in hotels and motels) as well as towel bars should be mounted so that the bottom edge is no higher than 40" from the floor and preferably is not on the wall behind the toilet.

Caution: Electrical outlets should be located within the allowable reach range, but at the same time they must be located where they cannot get wet.

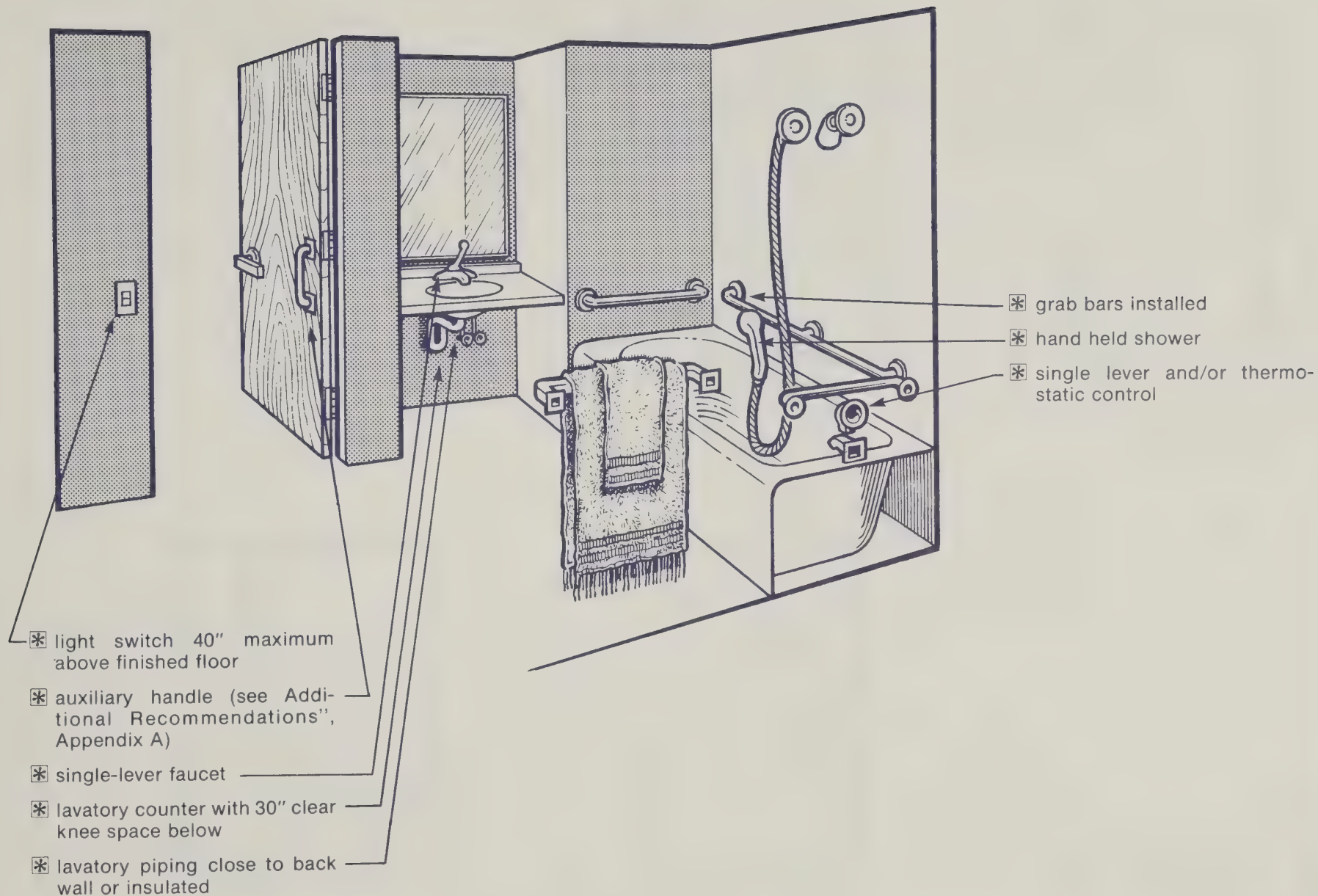


h. Mirrors and towel racks

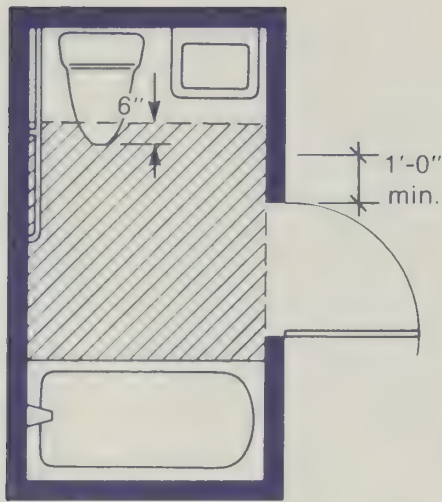




5.2 Code Complying Bathroom

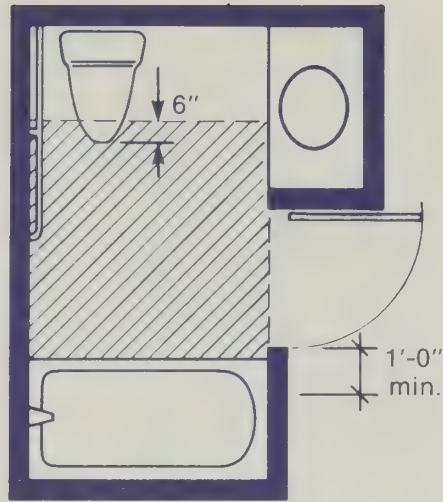


5.2 Recommended Bathroom Features

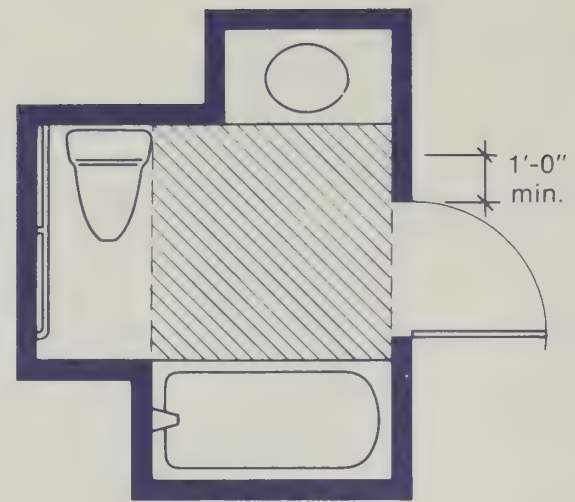


47.5 sq. ft.

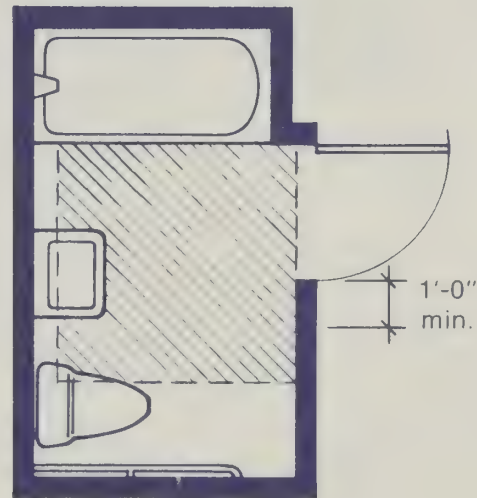
Smallest possible bathroom
that is usable.



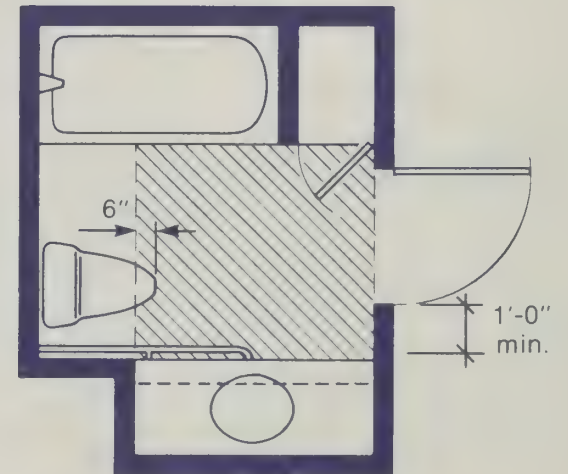
54.5 sq. ft.



57 sq. ft.



51 sq. ft.



59 sq. ft.

Hatched areas indicate 5'-0" x
5'-0" clear floor space.

5.2 Plans of Code Complying Bathrooms

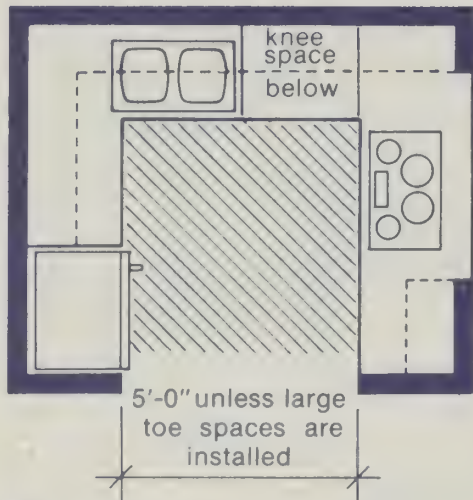
- 7.** Where kitchens are provided as part of the accessible residential unit, the requirements for kitchens are as follows:
- a.** There must be a minimum 5'-0" x 5'-0" clear floor space in the kitchen.
 - b.** Base cabinet toe spaces must be 6" deep by 8¾" high.
 - c.** There must be a work surface 30" wide and 30½" maximum above the floor and it must have a clear knee space below.
 - d.** Doors must have a 32" clear opening.

NOTE:

Kitchens in hotels and motels are not required to meet the requirements of the Handicapped Section of the Code. However, in hotels and motels 5% of the units must be accessible, and if kitchens are part of these units it is recommended that they too be accessible.

Kitchens 5.2

5.2 Kitchens

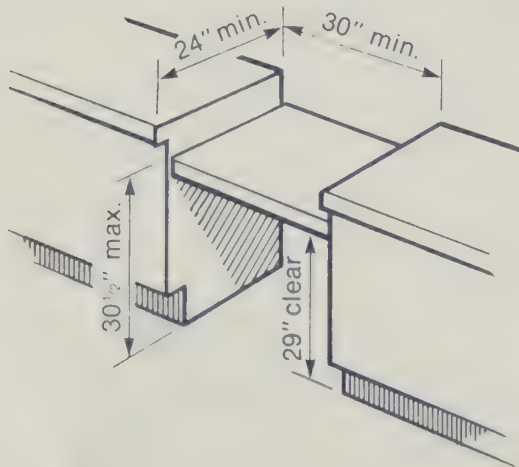


a. Clear floor space

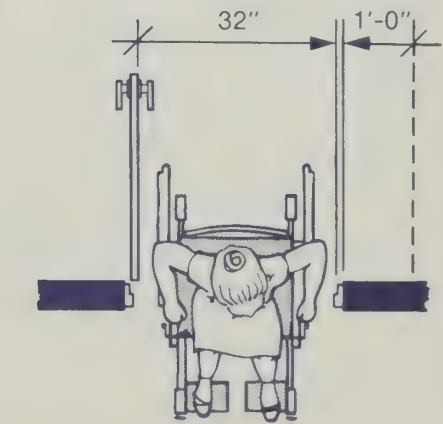
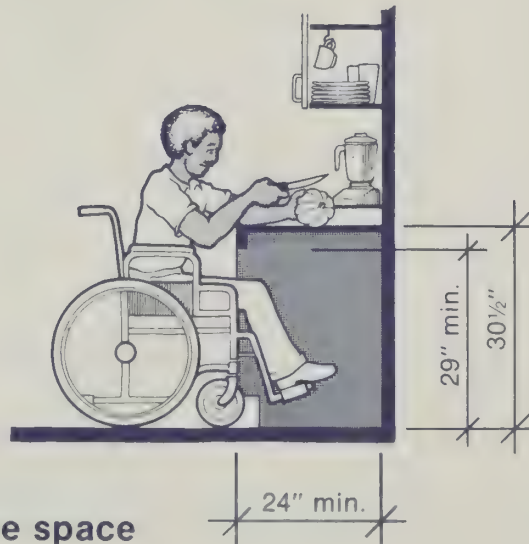


b. Cabinet toe space

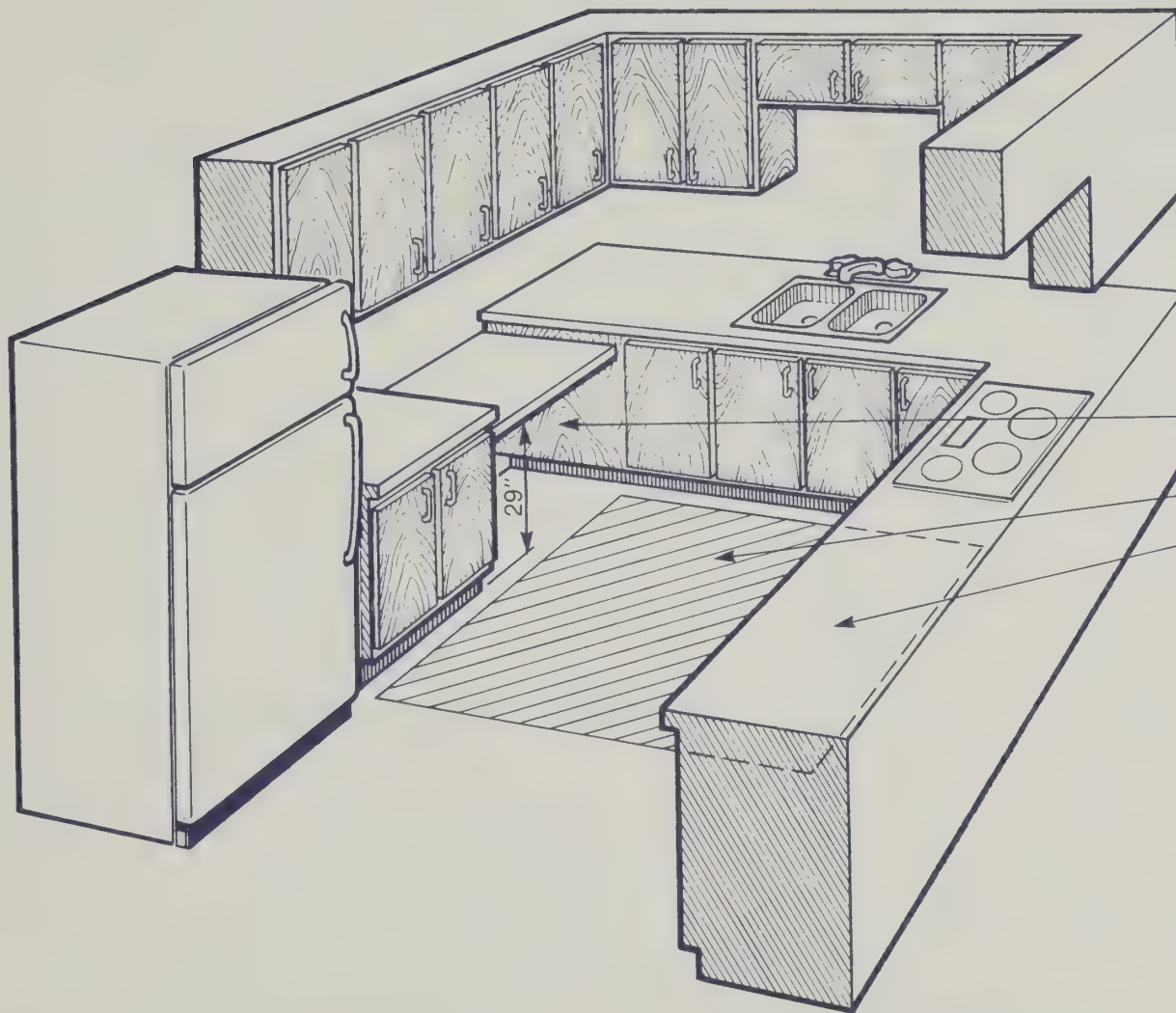
- a.** There must be a minimum 5'-0" x 5'-0" clear floor space in the kitchen of accessible units to permit a person using a wheelchair to make a 360° turn.
- b.** Cabinets may overlap the 5' x 5' clear floor space by 6" if a toe space at least 6" deep x 8¾" high is provided.
- c.** A knee space for seated work at least 30" wide, 29" high, and 24" deep must be provided. The top of the counter must be at least 30" wide, 24" deep and no more than 30½" above floor to the top.
- d.** Doors must have a 32" clear opening and swing out or slide. However, doors may swing in if they do not overlap the 5'-0" x 5'-0" clear floor space. See example on page 24.



c. Lowered work surface with knee space

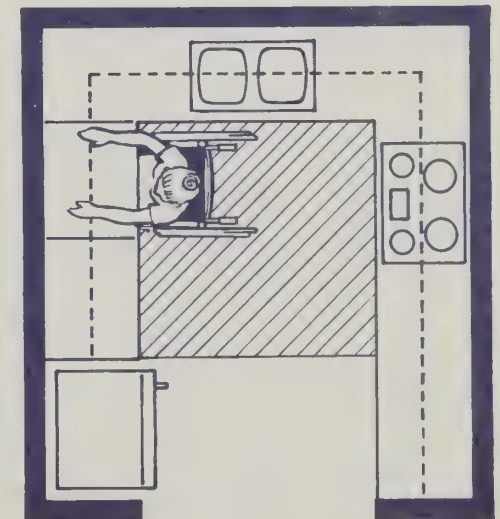


d. Doors



Items in **bold type** are code requirements; those in lighter type are ***** recommended but not required.

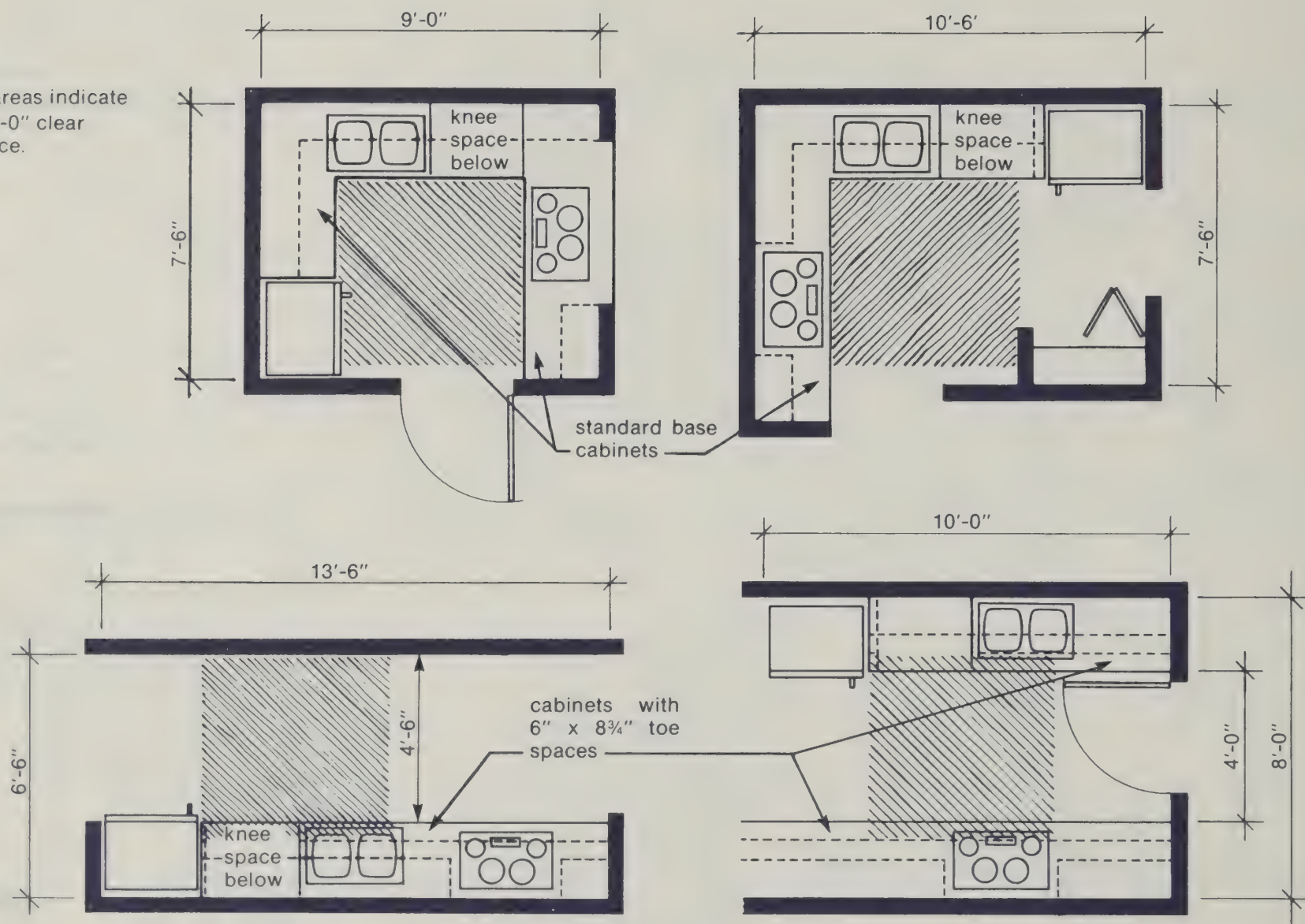
lowered work surface with knee space below
 5'-0" x 5'-0" clear floor space
 standard kitchen cabinets



Plan


5.2 Code Complying Kitchen



Shaded areas indicate
5'-0" x 5'-0" clear
floor space.



5.2 Plans of Code Complying Kitchens





Items in **bold type** are code requirements; those in lighter type are  recommended but not required.


-  sliding closet doors in tight spaces
-  clothes rod mounted no more than 54" above floor and adjustable to 48"
- thermostat and light switches no more than 48" above the floor**

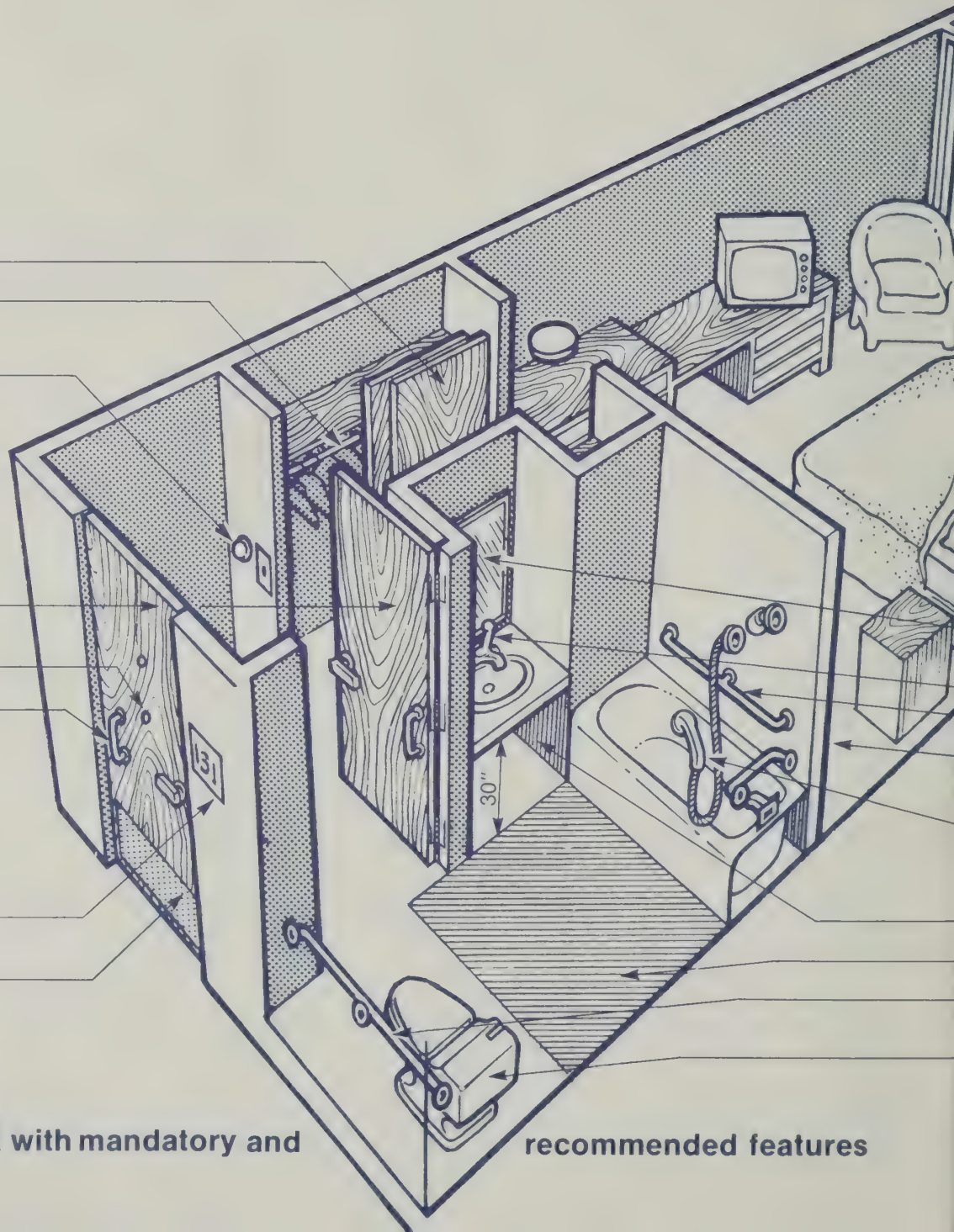
door closer if used must require no more than 8 pounds of force at the handle to open the door

passage doors 3'-0" wide with easy-to-use hardware; levers preferred

-  second peep hole at 42" above floor
-  auxiliary handles on doors not having closers

room number sign with raised or recessed letters or numerals

-  kickplate



5.2 Sample Room with mandatory and

recommended features

drapery pull cords no more than 40" above floor ✱ and unobstructed by furniture

✱ lighting and TV controls near bed

mirror no more than 40" above floor

✱ single lever faucet

✱ grab bars at tub

walls must be capable of supporting grab bars

✱ hand held shower

✱ 30" high clear knee space or cabinet with standard toe space may be used

5' x 5' clear floor space

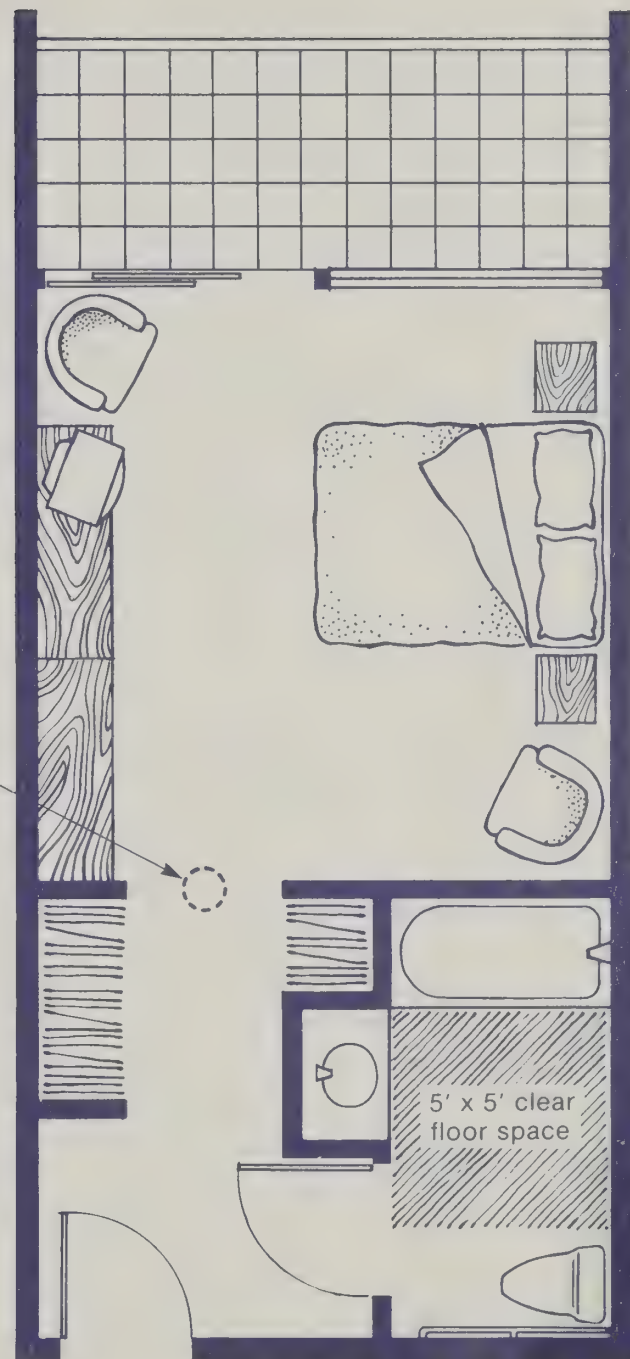
grab bars capable of supporting 250 pounds on walls beside toilet

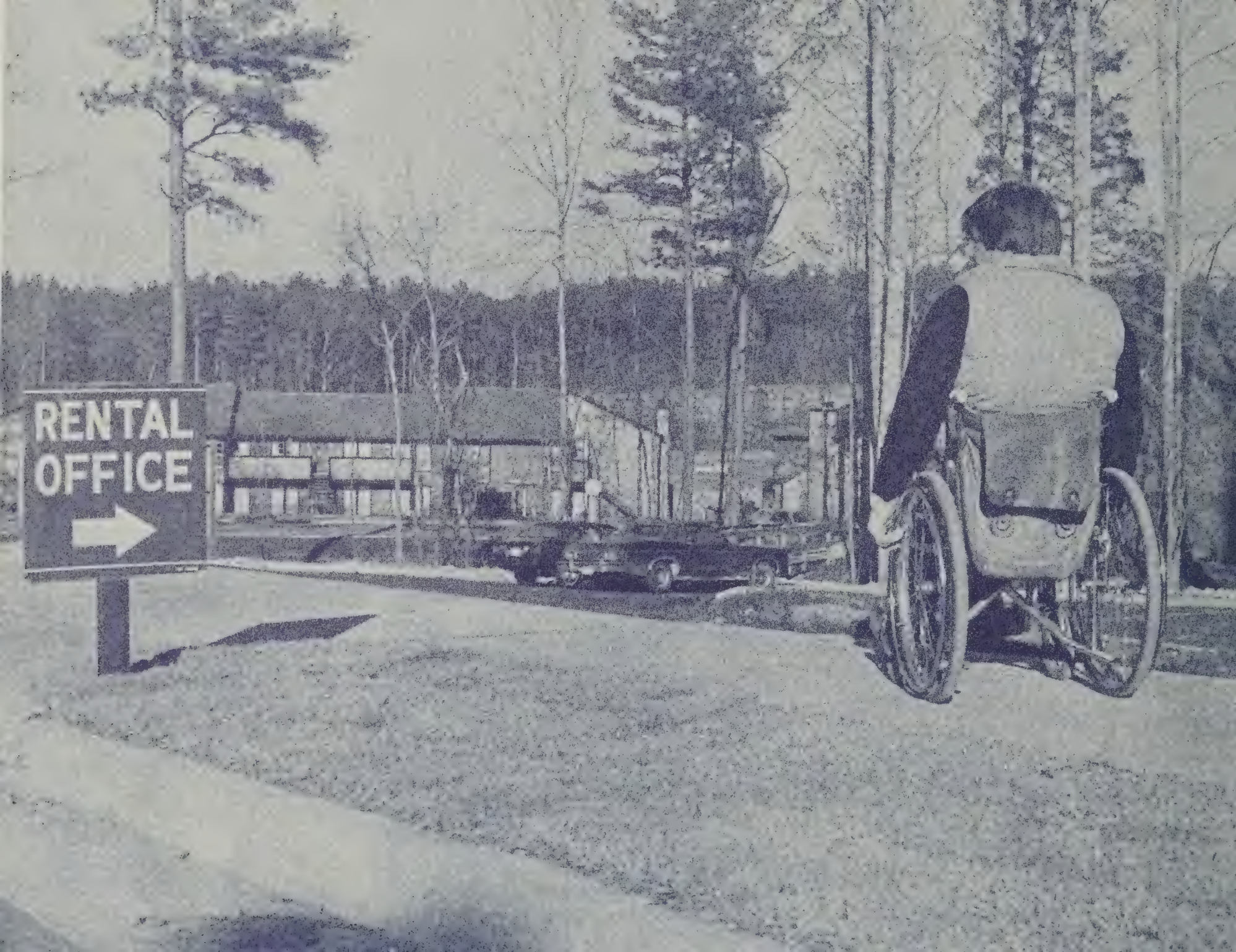
✱ standard water closet with flush lever on side toward open space

Note: See Section 720, Volume I, *General Construction*, for requirements for smoke detection systems; Section 901, for sprinklers; Section 1125 for fire alarms.

smoke detector required in apartments; ✱ recommended in hotel rooms.

Plan





RENTAL
OFFICE



If privately owned residential units intended to be rented or leased in residential projects with more than 10 individual residential units are being built, 5% of the total number of units, or a minimum of one, must be accessible. The requirements of the Handicapped Section of the Code that must be met to make that 5% accessible are:

1. grading (11X)3.1 and walks (11X)3.2
2. curb ramps (11X)3.2
3. parking spaces (11X)3.3
4. ramps (11X)4.1
5. doors (11X)4.2 and entrances (11X)4.3
6. door and drawer hardware (11X)4.3.1
7. stairs (11X)4.4
8. floors (11X)4.5
9. elevators (11X)4.9
10. controls (11X)4.10
11. *bathrooms* must meet or be adjustable to meet the requirements outlined on pages 36 through 41 (11X)5.3(c)
12. *kitchens* must meet or be adjustable to meet the requirements outlined on pages 42 through 46 (11X)5.3(b).

Items 1. through 10. in the above list and illustrated on pages 30 through 32 are general specifications from the Handicapped Section of the N.C. State Building Code which apply to housing covered by Section 5.3. These specifications are stated and illustrated in more detail in *An Illustrated Handbook of the Handicapped Section of the N.C. State Building Code*.

Items 11. and 12. in the above list and as shown on pages 36 through 49 are specifications for bathrooms and kitchens required in accessible housing covered by Section 5.3. These specifications are stated and illustrated here in their entirety (including all allowable alternate designs, and adjustable and adaptable features) and they are to be used as the sole reference for compliance under Section 5.3.

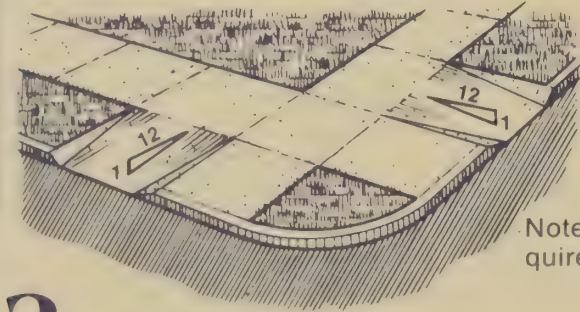
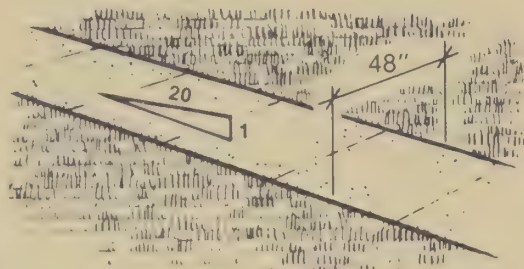
Distribution of Units

Residential units accessible to the physically handicapped must not be segregated from other units. For example, in large apartment complexes all the units for the disabled may not be placed in one building but must be dispersed throughout the complex. Similarly, in hotels, all the sleeping rooms for the handicapped should not be placed on the same floor.

Privately-Owned Residential Units for Rent or Lease 5.3

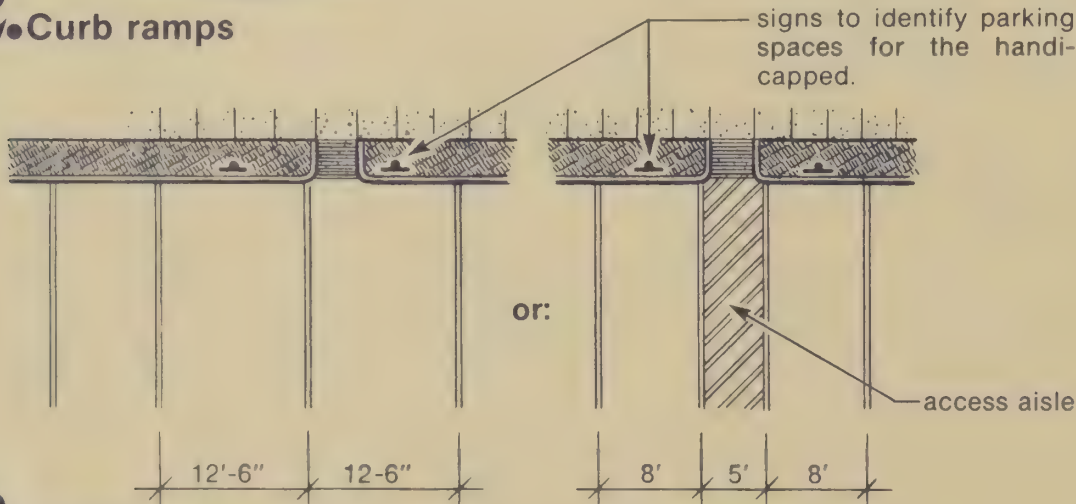
5.3 General Requirements

1. Grading and walks



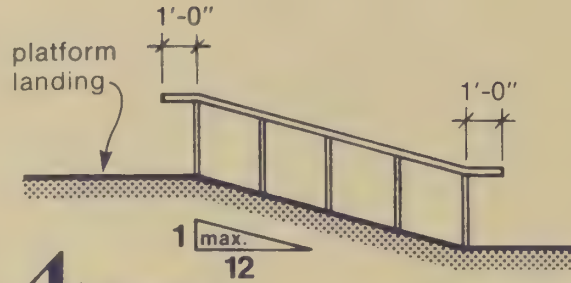
Note: Curb ramps are not required to have handrails.

2. Curb ramps



3. Parking spaces

4. Ramps



1. Walks serving accessible units and connecting them with other accessible facilities must:

- a. be at least 48" wide,
- b. be no steeper than 1 in 12 (8.33%),
- c. provide a continuous common surface having no bump or abrupt change in level greater than 1/2", and
- d. have handrails if the slope exceeds 1 in 20 (5%).

2. Where walks cross curbs, streets, or driveways, they must blend to a common level with the street or have curb ramps. Curb ramps must be at least 40" wide and slope no more than 1 in 12 (8.33%).

3. Two percent (2%) of the total number of parking spaces provided, or a minimum of one, must be designated for disabled people. These spaces must be a minimum of 12'-6" wide and have above parking level signs.

An economical acceptable alternative is to install standard width spaces separated by a 5'-0" wide access aisle.

4. A ramp must:

- a. be at least 4'-0" wide,
- b. have one handrail if it slopes more than 1 in 20 (5%) and have no drop-offs at the edge,
- c. have handrails on both sides if it drops off on either side,
- d. have handrails which extend at least 1'-0" horizontally beyond the slope at each end, and
- e. have a level platform at top, bottom, wherever it changes direction, and every 30' if it is very long.

5.3 General Requirements

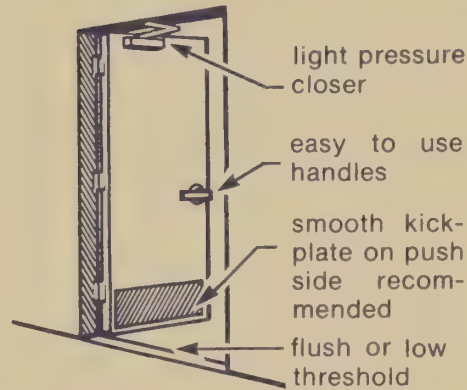
- 5.** All primary entrances to buildings must be accessible. This includes those commonly used as a point of major pedestrian flow to and from streets, walks, parking levels, other buildings, connecting bridges, walkways, pedestrian tunnels, plazas, decks, other facilities, and spaces.

- All passage doors must provide a minimum 32" clear opening.
- There must be a clear floor space of 5'-0" x 5'-0" on both the push and pull sides of all doors, and it must extend 1'-10" to the side of the strike jamb on the pull side of the door.
- Thresholds must be flush or beveled with not more than $\frac{3}{4}$ " vertical edge for exterior doors and no more than $\frac{1}{2}$ " vertical edge for interior doors.
- If two doors are close to each other to form a vestibule, the minimum distance between the doors must be 6'-6".
- The bottom rail of glass doors must be at least 7 $\frac{1}{2}$ " high and preferably 12".
- Pressure applied to operate doors must not exceed 8 pounds for interior doors and 15 pounds for exterior doors.

- 6.**
- Door handles must be mounted between 30" and 42" above the floor.
 - Doors must have hardware that is easy to operate and which does not require fine grasp. Examples of such hardware are shown here. Lever-type handles are preferred because they can be operated by a single, non-precise movement.

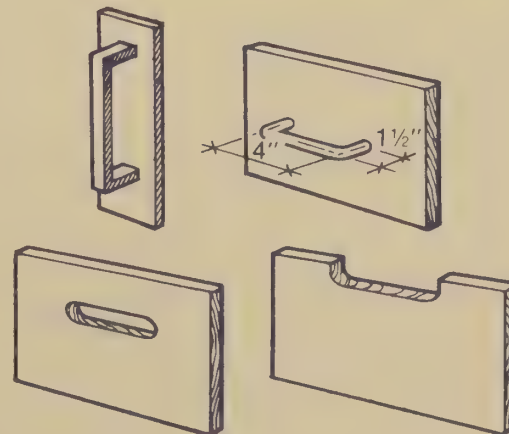
Door handles for accessible housing units required by Section 5.3 may be made an adaptable feature. Standard

door knobs may be installed at the time of construction with the understanding that they will be replaced by the owner when needed by a disabled occupant.



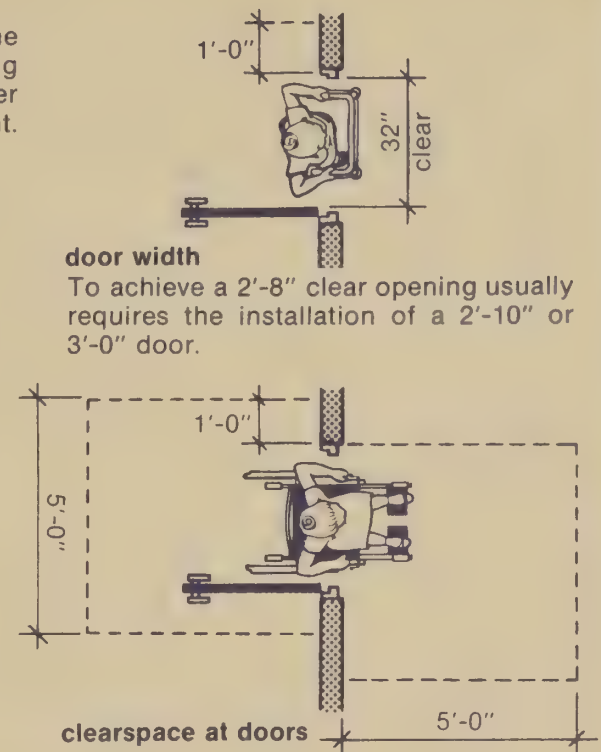
5. Doors and entrances

6. Door and drawer hardware for non-latching doors and drawers

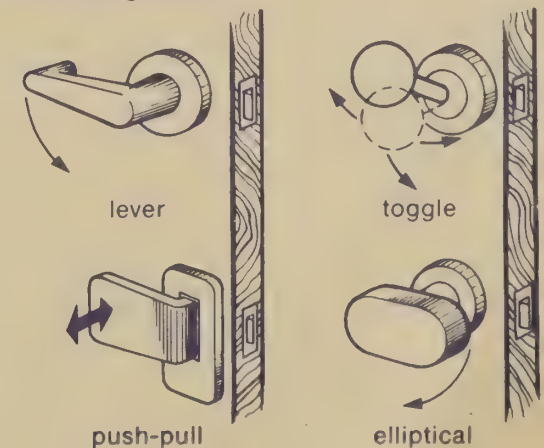


door width

To achieve a 2'-8" clear opening usually requires the installation of a 2'-10" or 3'-0" door.

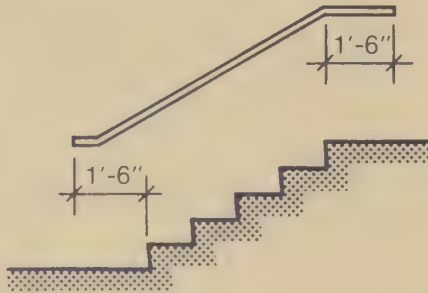


for latching doors



5.3 General Requirements

7. Stairs



7. Stairs must be without protruding nosings and must have handrails on both sides 32" above the nosings. At least one of those handrails must be continuous and extend 1'-6" horizontally beyond the top and bottom risers.

8. Floors on a given story must be on a common level or be connected by a ramp, approved mechanical wheelchair lift, or an elevator.

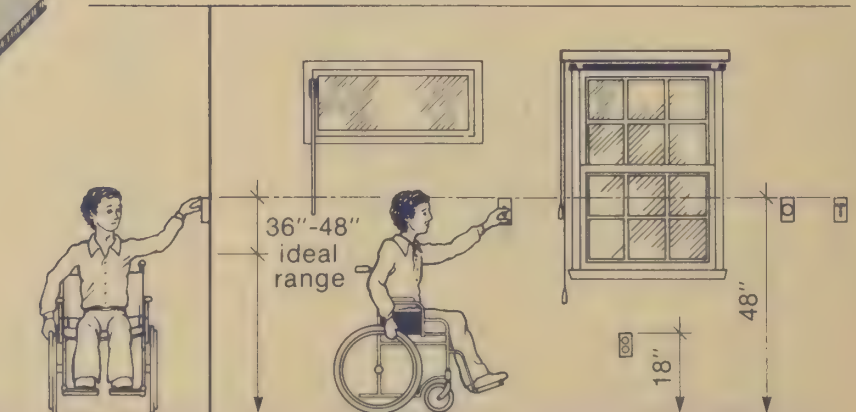
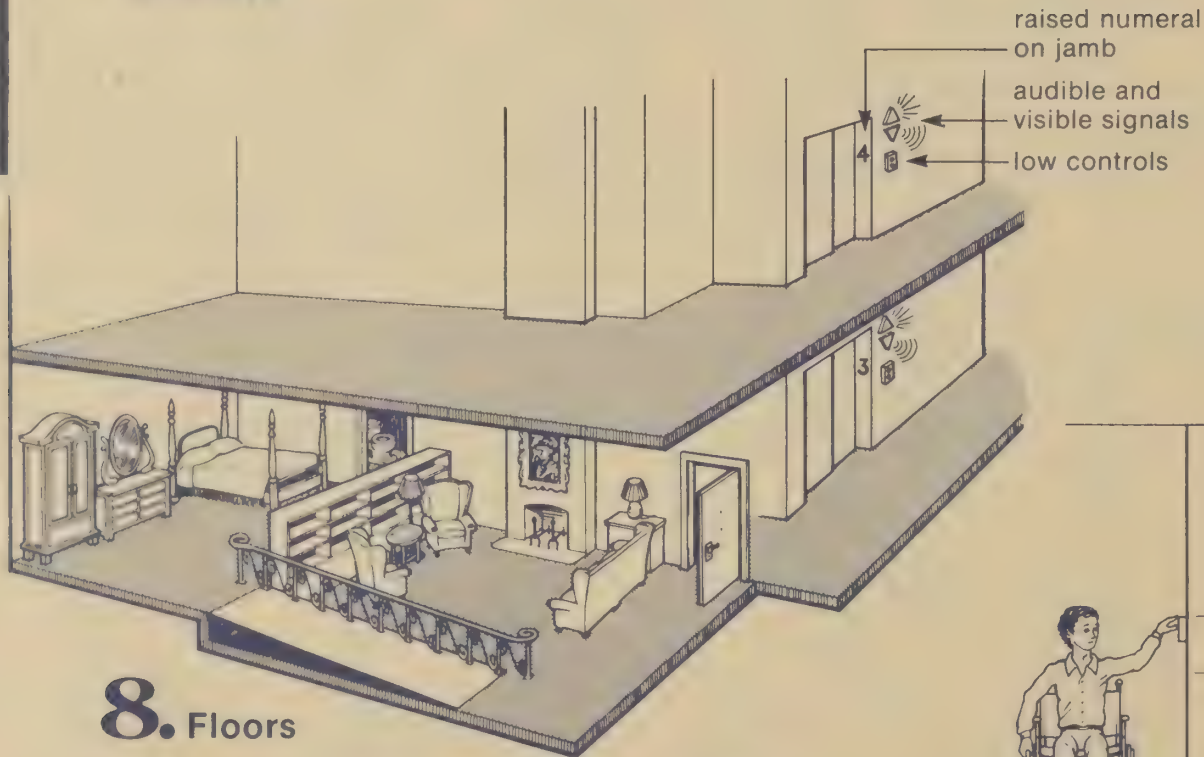
9. All privately owned residential buildings over three stories must have elevators which meet the elevator requirements of the Handicapped Section of the N.C. State Building Code.

10. All controls, devices for light, power, heat, fire alarms, and thermostats, ventilation, windows, draperies, doors and similar controls intended to be operated by the occupant must be mounted no more than 4'-0" above the floor. It is recommended that electrical outlets be located no lower than 1'-6" from the floor.

8. Floors

9. Elevators

10. Controls



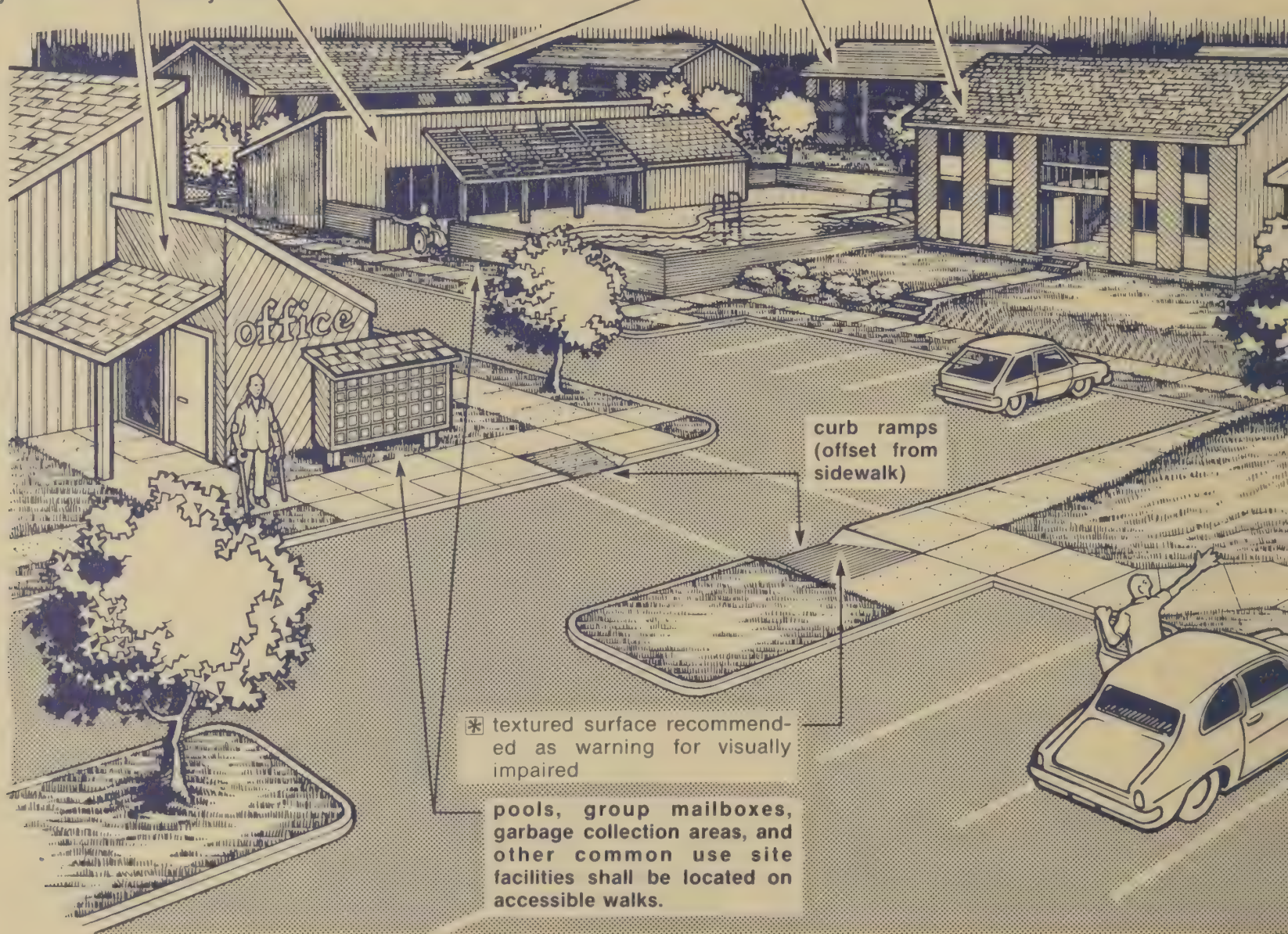


offices and laundries in separate buildings are classified as business occupancies and must meet all code requirements for accessibility

clubhouses in separate buildings are classified as assembly occupancies and must meet all code requirements for accessibility

buildings having accessible units must be dispersed throughout the site

inaccessible building not having any accessible units



5.3 Site Considerations

Items in bold type are code requirements; those in lighter type are * recommended but not required.

Bathrooms must meet or be adjustable to meet the following:

- 11. a.** The toilet room door must provide at least a 32" clear opening.
- b.** There must be at least 6 feet between walls in bathrooms except walls at ends of tubs.
- c.** If a 5'-0" x 5'-0" clear floor space is not provided, a wall-hung lavatory with 30" clearance below the apron must be provided.
- d.** Bathroom walls must be capable of supporting handrails that can support a 250 pound load.
- e.** Where mirrors are provided, at least one must be mounted above the lavatory so the bottom edge is no higher than 40" above the floor.
- f.** Where towel bars are provided, at least one must be mounted no higher than 40" above the floor.
- g.** The water temperature at lavatories must not exceed 120°F, or exposed hot water lines and drains must be insulated.

A note on adjustable and adaptable features

Certain features in bathrooms and kitchens covered by this section may be adjustable or adaptable.

Adjustable items may 1) be placed in a fixed position or, 2) be made moveable so that the occupant may position them at the most convenient position. For example the Handicapped Section specifies a kitchen work surface 30½" high for seated work at the counter. This low work surface might be adjustable so that it can be set low for seated people or high for standing people. When in the high position, the knee space underneath can be used for an appliance, trash can, storage, etc. The important aspect of adjustable features is that they may easily be returned to the Code complying position when needed.

Adaptable refers to features provided for but not actually installed. For example, reinforcing is required in bathroom walls of accessible apartment units so they will support grab bars, but the bars themselves are not required. This adaptable feature makes it possible for the bars to be added for the occupant.

Items not installed at the time of construction under the adaptable or adjustable provisions of Section 5.3, and items installed which might need to be removed to provide access must be installed or removed by the owner at the owner's expense when the dwelling is rented to a disabled tenant who needs the specified feature.

5.3 Bathrooms

5.3 Bathrooms

Bathrooms must meet or be adjustable to meet the following:

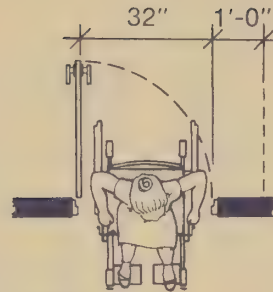
a. The toilet room door must either slide or swing out of the room. As toilet and bathrooms are usually small in size, there is rarely enough room to be inside the bathroom in a wheelchair and to maneuver to close an inswinging door. However, doors may swing in if they do not overlap the required 5'-0" x 5'-0" clear floor space. Sliding or pocket doors are often useful where doors would swing into halls or traffic paths.

b. There must be at least 6 feet between walls in bathrooms except walls at ends of tubs. A 5'-0" x 5'-0" clear floor space is necessary for a person using a wheelchair to make a 360° turn.

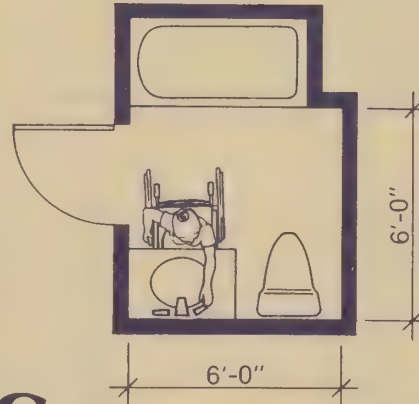
c. If a 5'-0" x 5'-0" clear floor space is not provided, a wall hung lavatory with 30" clearance below the apron must be provided. This is necessary to allow additional maneuvering space under the lavatory for people using wheelchairs.

NOTE: A removable vanity cabinet front could be installed that would be easily removed when required for a disabled person. The modification must not require any construction bracing of the countertop or changes in the plumbing.

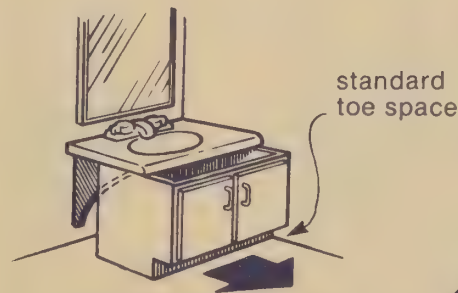
d. The Code requires that all bathroom walls be capable of supporting handrails which can support a 250 pound load. An alternate acceptable solution is to reinforce walls around water closets and tubs so grab bars can be added if needed.



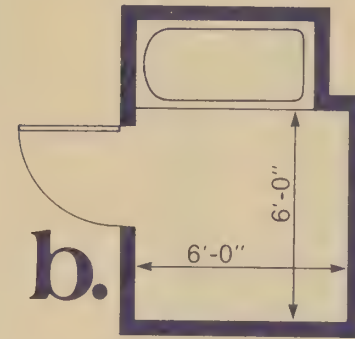
a. Doors



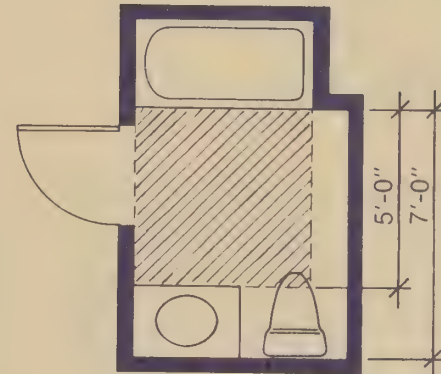
c. Minimum sized bathroom with wall hung lavatory



Adaptable vanity installation

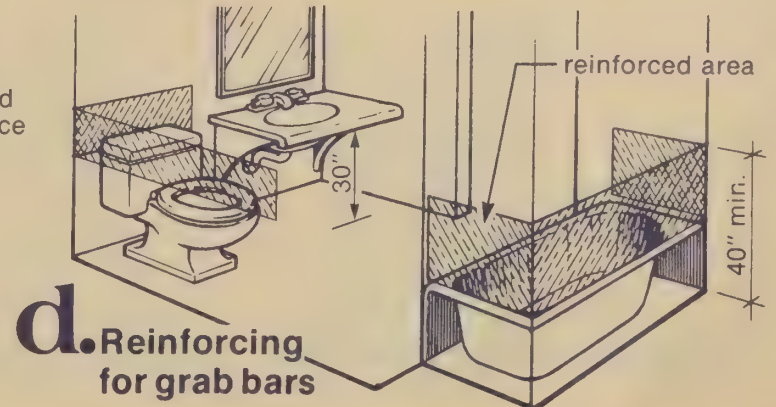


b. Minimum sized area



Minimum sized bathroom with vanity cabinet

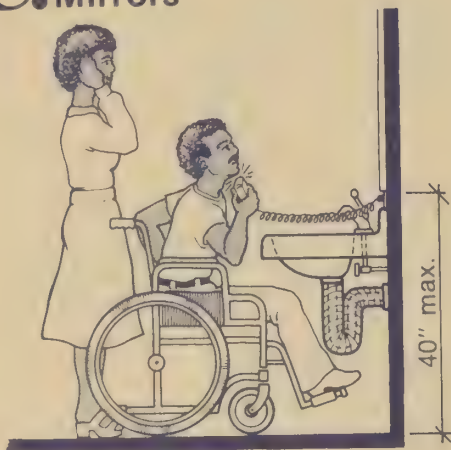
Note: This dimension can be 6'-6" if a 6" deep by 8 3/4" high toe space is provided at the front of the vanity cabinet.



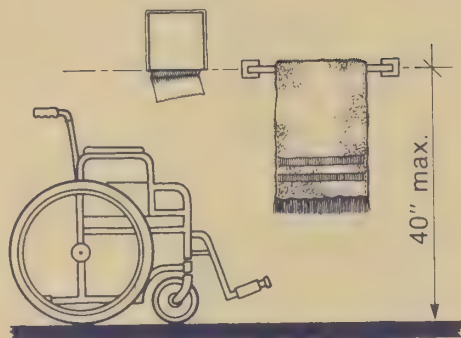
d. Reinforcing for grab bars

5.3 Bathrooms

e. Mirrors



f. Towel bars



- e. When provided, mirrors placed over lavatories must be mounted so that the bottom edge is no higher than 40" above the floor to permit a small person or someone seated in a wheelchair to see to comb their hair, shave, apply make-up, etc. If the mirror is tall enough, it will also work well for standing people. Tilt mirrors are discouraged because when in a position to be usable by a person in a wheelchair they do not work well for a standing person. Some tilt mirrors are also subject to vandalism because of moving parts.

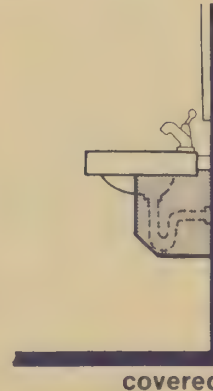
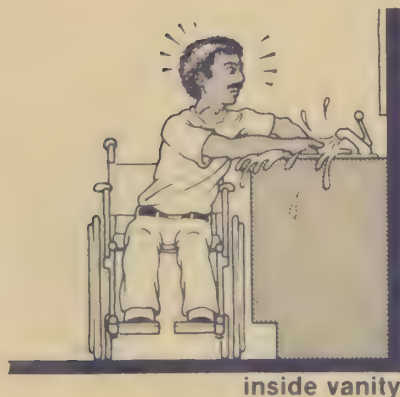
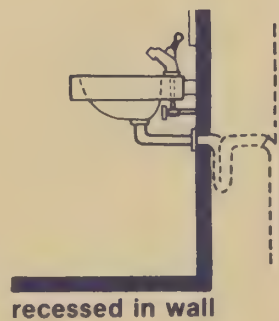
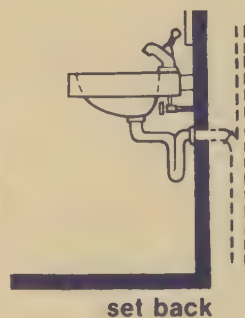
Caution: Electrical outlets should be located within the allowable reach range, but at the same time they must be located where they cannot get wet.

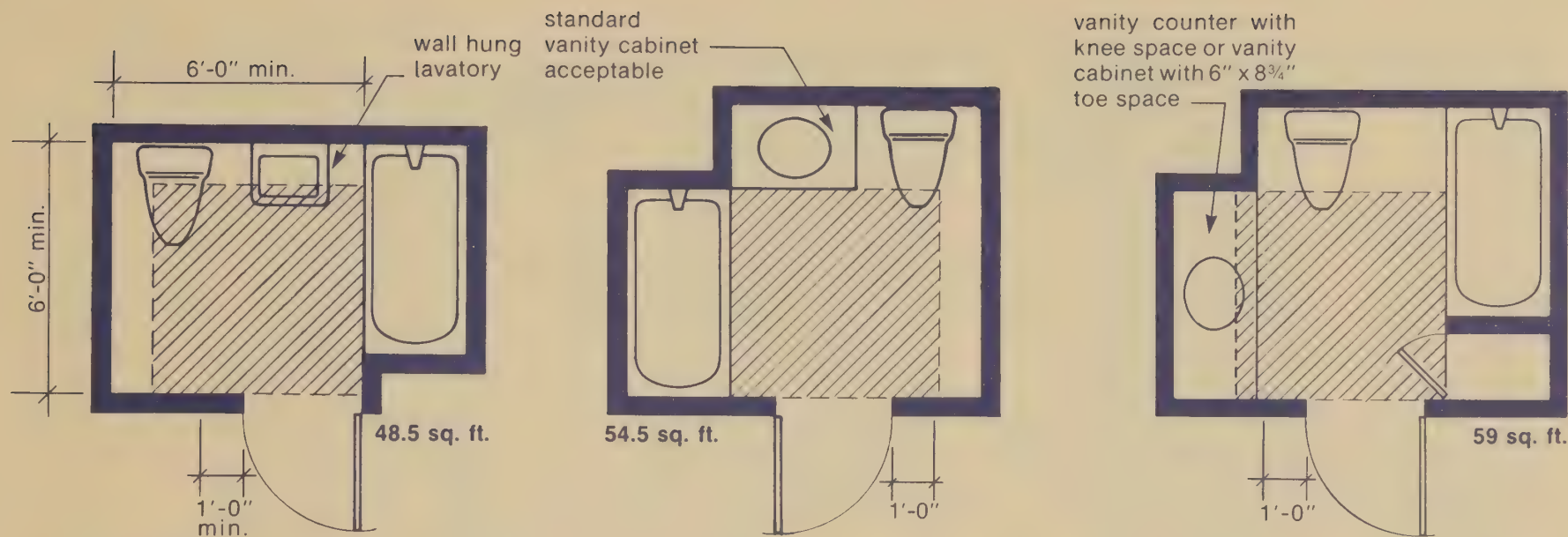
- f. Where provided, towel storage racks as well as towel bars should be mounted so that the bottom edge is no higher than 40" from the floor and preferably is not on the wall behind the toilet.

- g. The water temperature at lavatories must not exceed 120°F, or exposed hot water lines and drains must be insulated to prevent burns on persons with little or no sensation in their legs. If lavatories are placed in vanities with covered fronts, the water temperature does not need to be reduced nor do the pipes require insulating. If wall-hung lavatories or lavatories placed in countertops without fronts are installed, some protective measures must be taken. To avoid unsightly exposed wrapped pipes, a mixing valve with temperature limiting device could be installed.

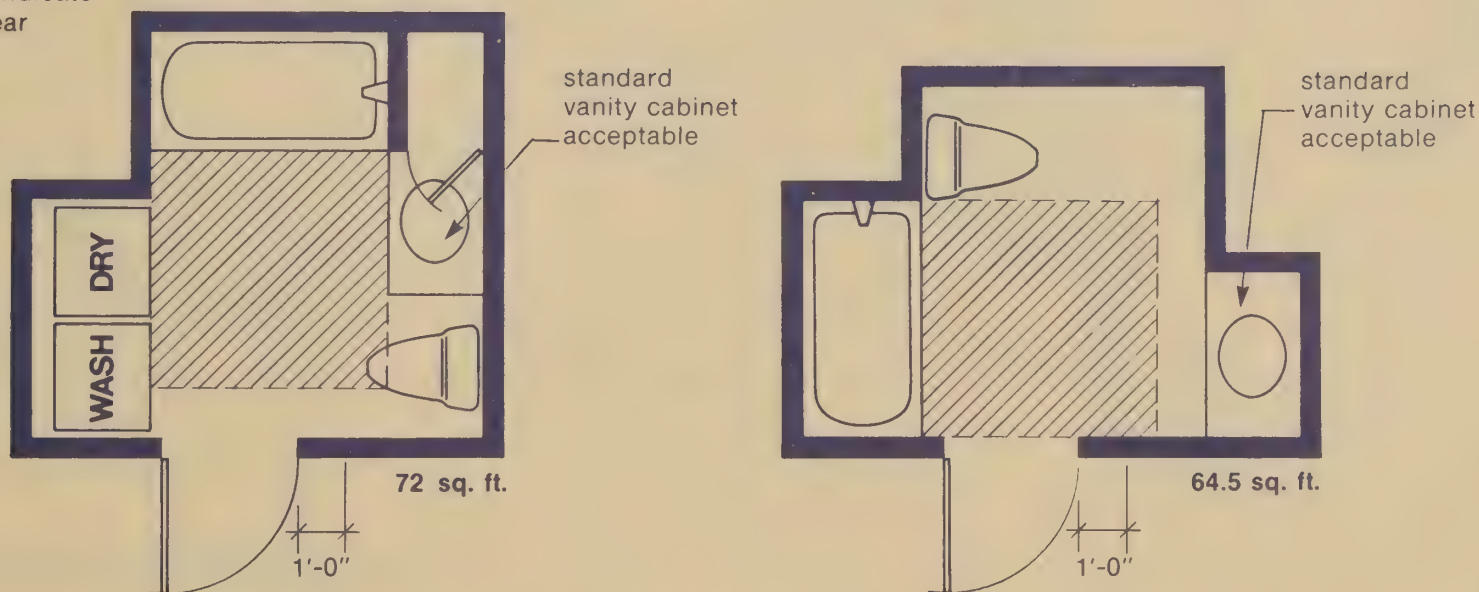
g. Insulated lavatory piping

The piping does not prevent a person in a wheelchair from pulling up under the lavatory. Neither of these solutions require insulation nor reduced water temperature.

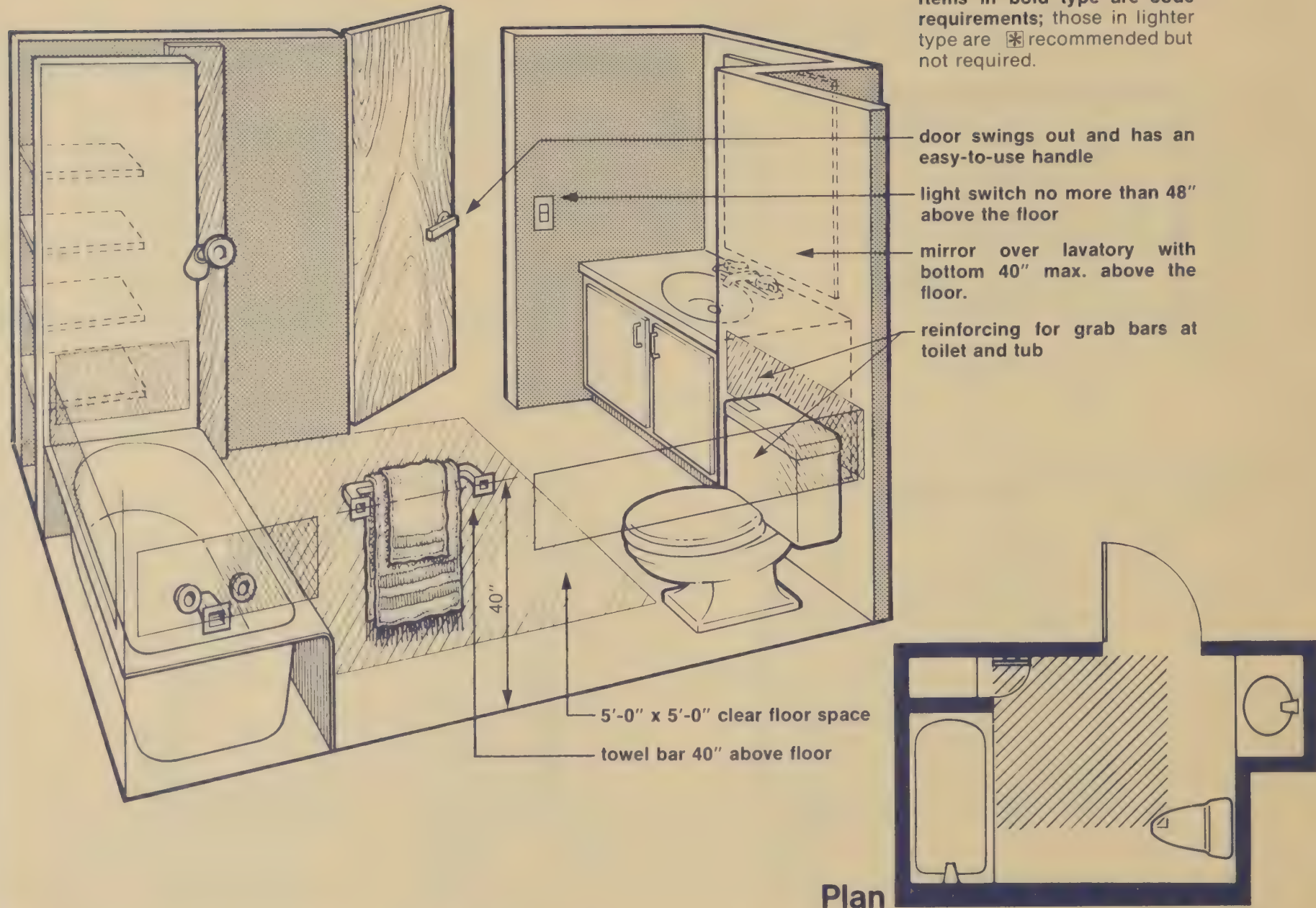




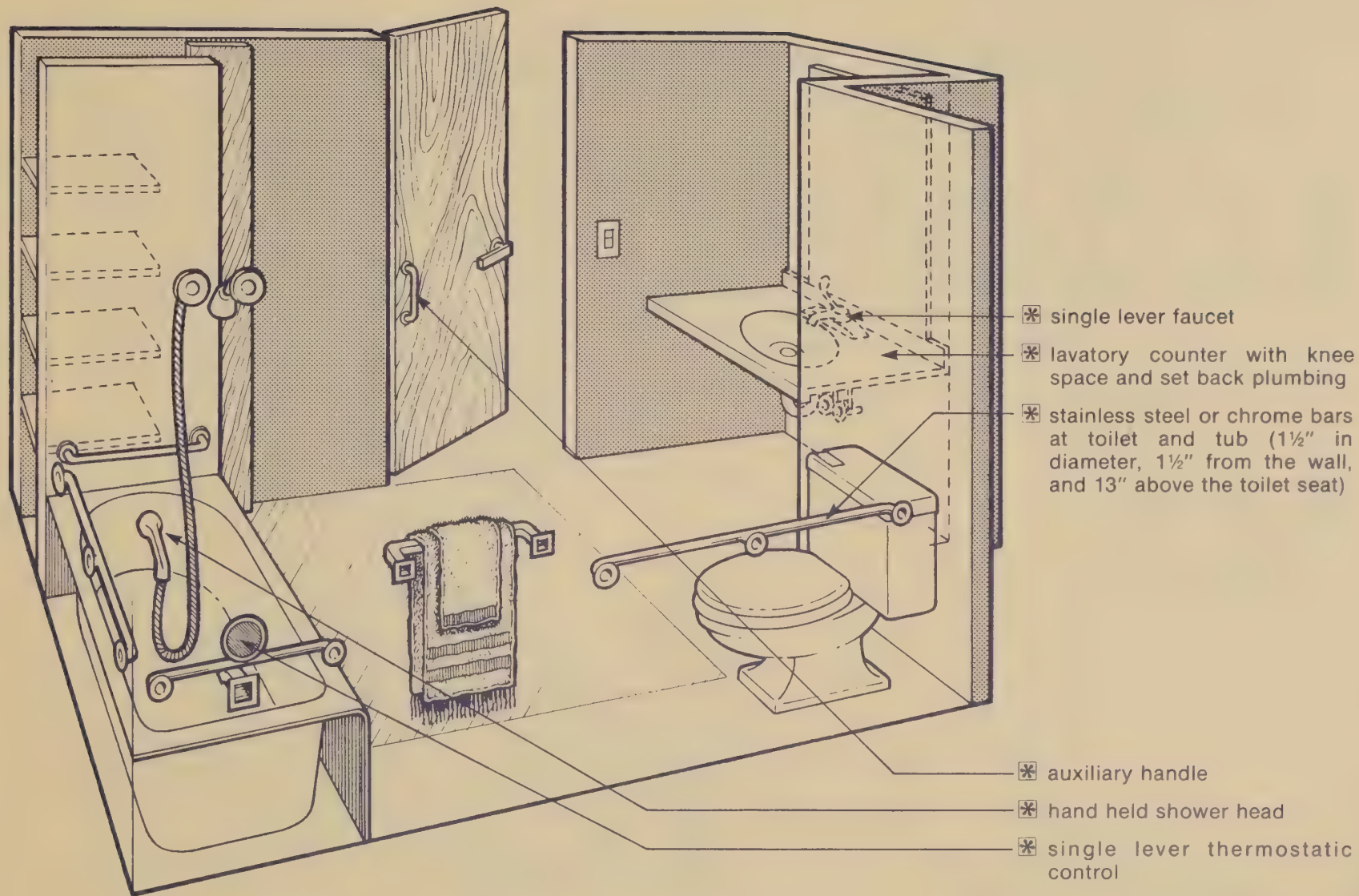
Hatched areas indicate
5'-0" x 5'-0" clear
floor space.



5.3 Plans of Code Complying Bathrooms



5.3 Sample Code Complying Bathroom



5.3 Recommended Bathroom Features

Kitchens must meet or be adjustable to meet the following:

- 12.**
- a.** A 5'-0" x 5'-0" clear floor space is required in kitchens.
 - b.** Cabinets may overlap the 5'-0" x 5'-0" clear floor space if a toe space at least 6" deep x 8¾" high is provided.
 - c.** A work surface 30" wide, 30½" maximum above the floor, and 24" deep must be provided.
 - d.** Doors must have a 32" clear opening.

A note on adjustable and adaptable features

Certain features in bathrooms and kitchens covered by this section may be adjustable or adaptable.

Adjustable items may 1) be placed in a fixed position or, 2) be made moveable so that the occupant may position them at the most convenient position. For example the Handicapped Section specifies a kitchen work surface 30½" high for seated work at the counter. This low work surface might be adjustable so that it can be set low for seated people or high for standing people. When in the high position, the knee space underneath can be used for an appliance, trash can, storage, etc. The important aspect of adjustable features is that they may easily be returned to the Code complying position when needed.

Adaptable refers to features provided for but not actually installed. For example, reinforcing is required in bathroom walls of accessible apartment units so they will support grab bars, but the bars themselves are not required. This adaptable feature makes it possible for the bars to be added for the occupant.

Items not installed at the time of construction under the adaptable or adjustable provisions of Section 5.3, and items installed which might need to be removed to provide access must be installed or removed by the owner at the owner's expense when the dwelling is rented to a disabled tenant who needs the specified feature.

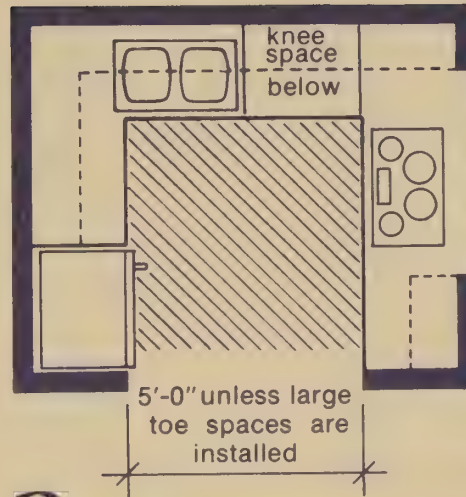
5.3

Kitchens

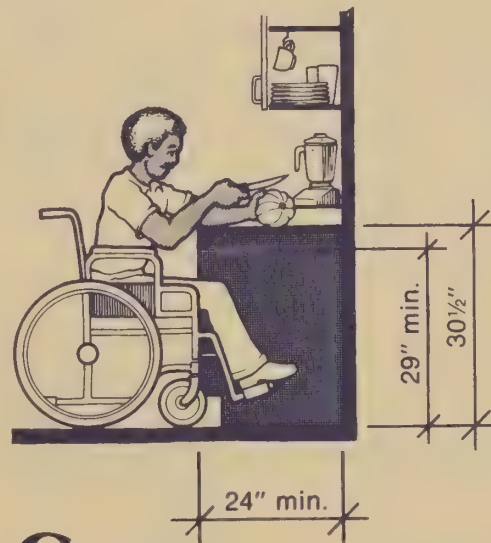
5.3 Kitchens

Kitchens must meet or be adjustable to meet the following:

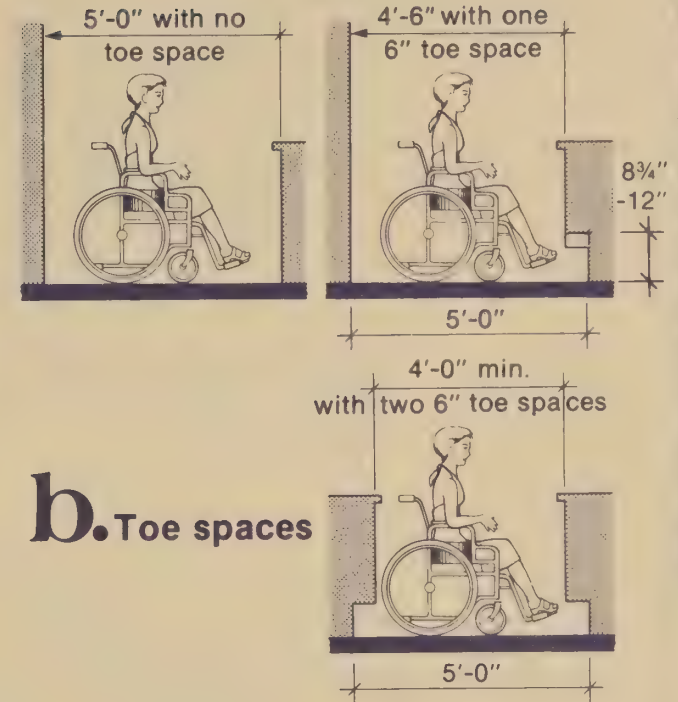
- a.** There must be a minimum of 5'-0" x 5'-0" clear floor space in each kitchen to allow maneuvering space for people in wheelchairs.
- b.** Cabinets may overlap the 5'-0" x 5'-0" clear floor space if a toe space at least 6" deep x 8¾" high is provided. However, if toe spaces are provided, a toe space with a larger vertical dimension is usable by more people in wheelchairs.
- c.** A work surface 30" wide, 30½" maximum above the floor, and 24" deep shall be provided for seated work. It must have a clear knee space below that is 30" wide 29" high and 24" deep. The work surface may be fixed, adjustable in height, or of the pull out type.
- d.** Doors, if provided, must have a 32" clear opening and swing out or slide. Where the kitchen is large, the door may swing into the room provided it does not overlap the required 5'-0" x 5'-0" (see page 45). Sliding or pocket doors are useful where doors would swing into halls or traffic paths.



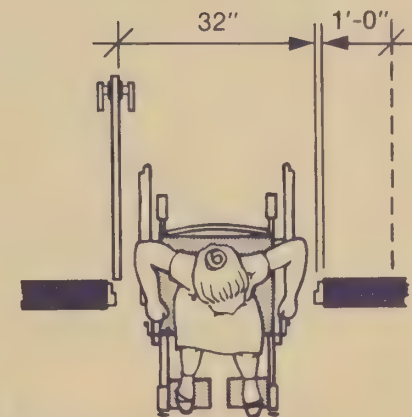
a. Clear floor space



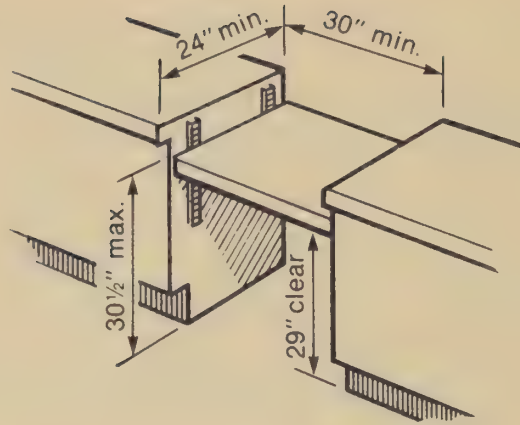
c. Lowered work surface with knee space (also see next page)



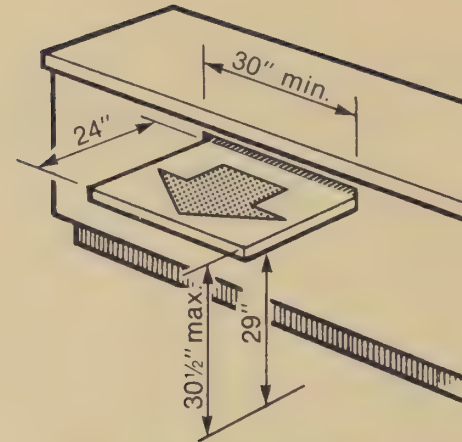
b. Toe spaces



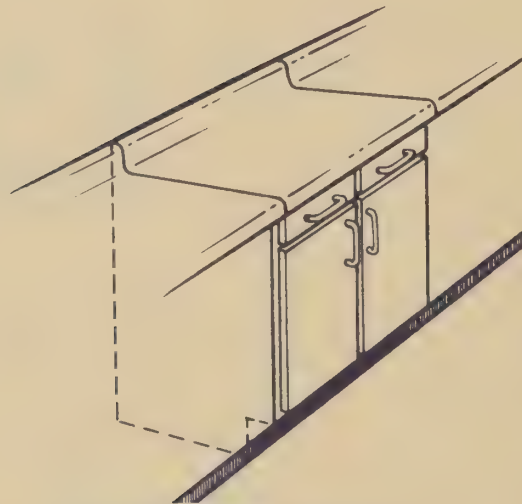
d. Doors



Fixed or adjustable work surface

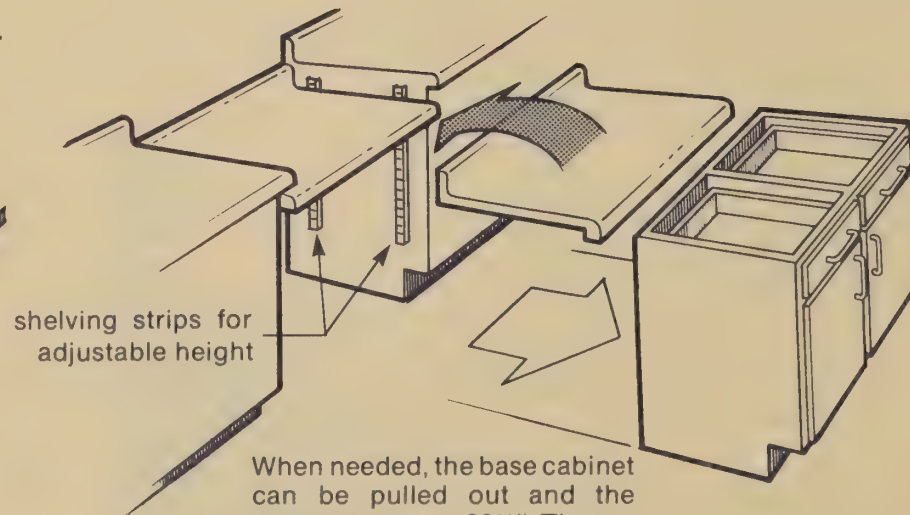


Pull-out work surface



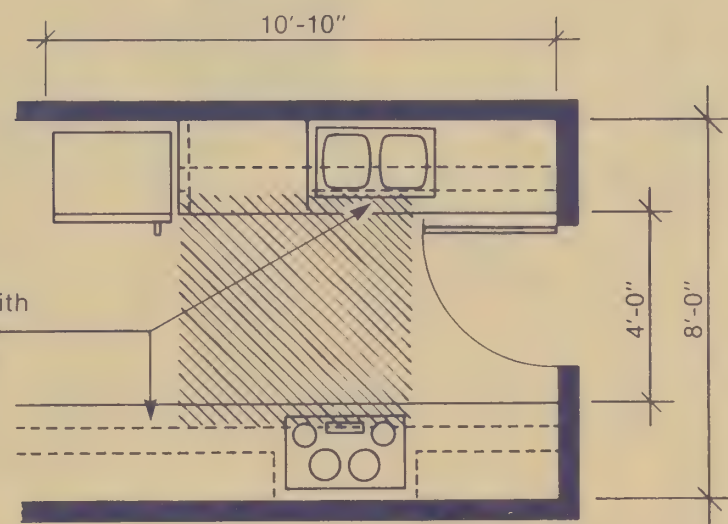
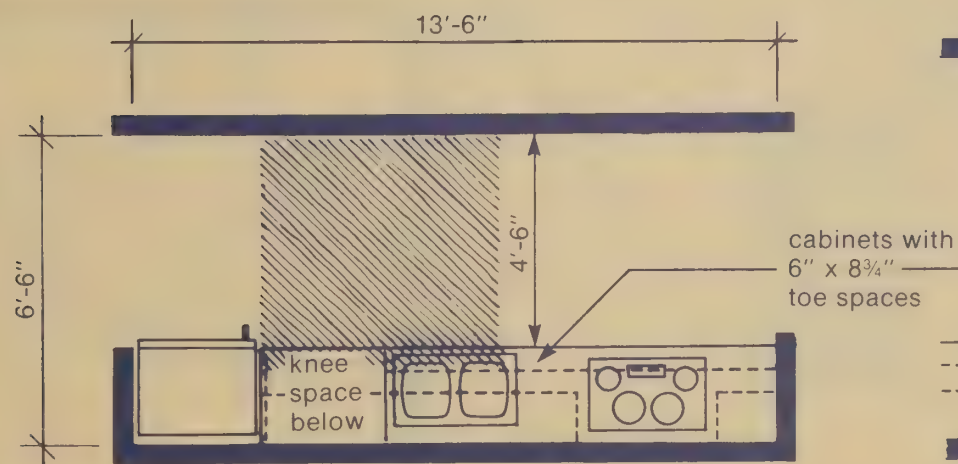
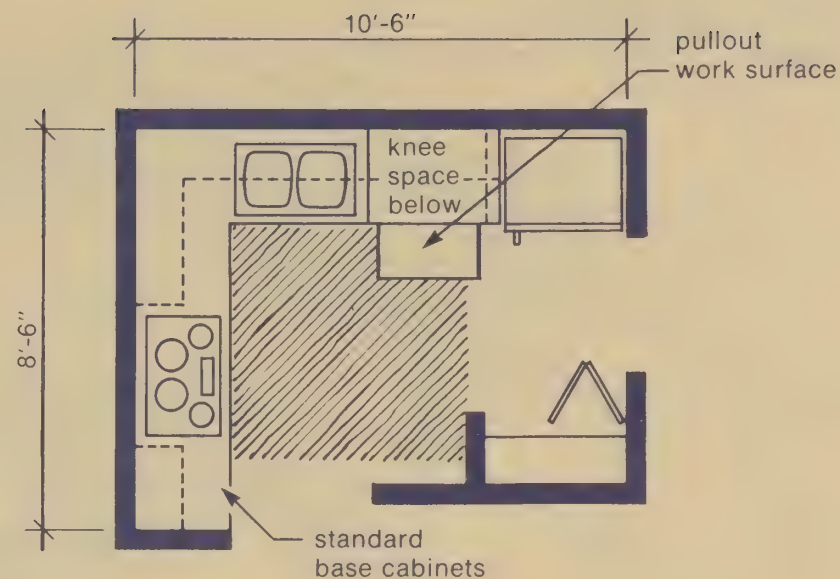
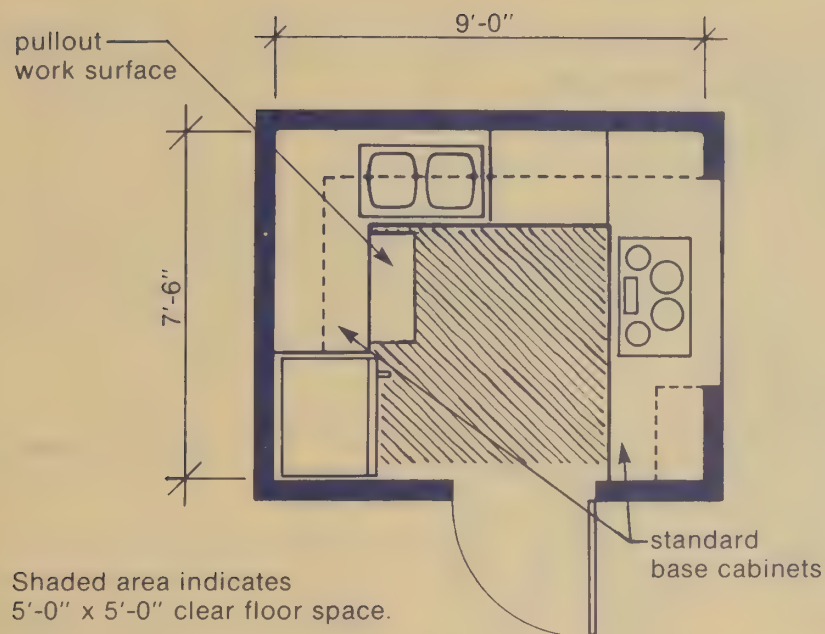
A standard base cabinet and segmented countertop can be installed.

Adaptable work surface installation



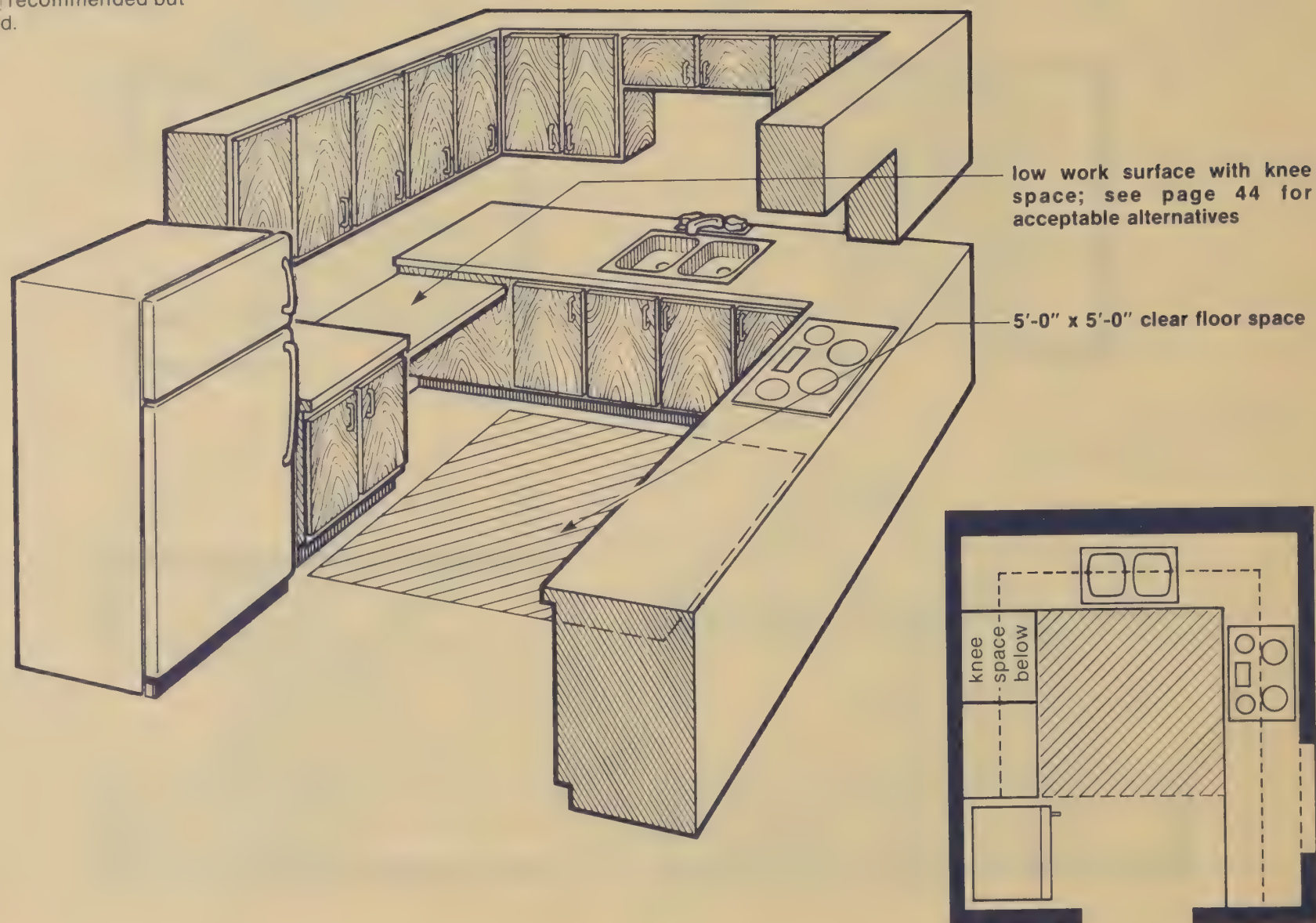
When needed, the base cabinet can be pulled out and the countertop set at 30 1/2". The top can also be placed on shelving strips so the counter height can be changed to suit any user.

5.3 Adaptable Kitchen Work Surfaces

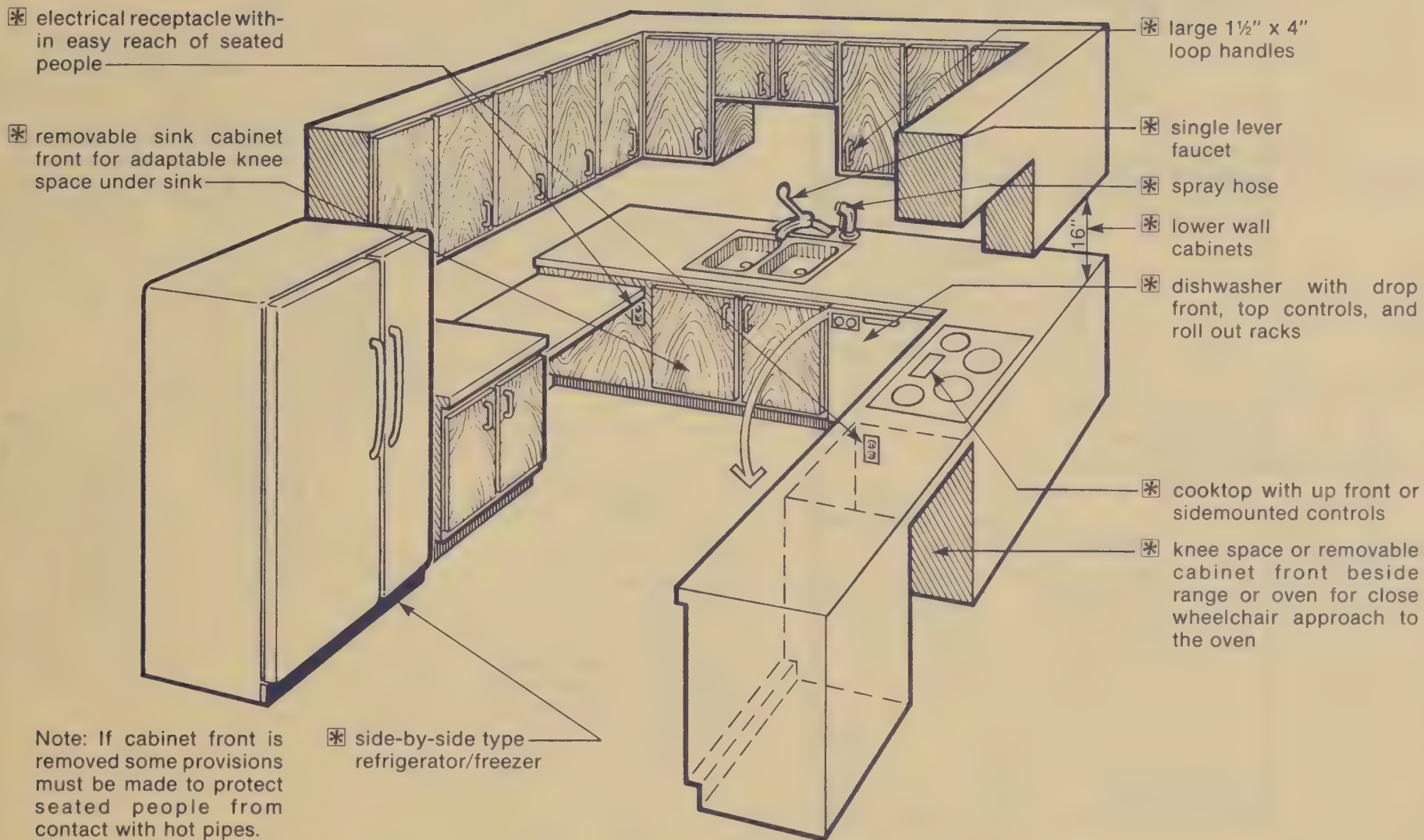


5.3 Plans of Code Complying Kitchens

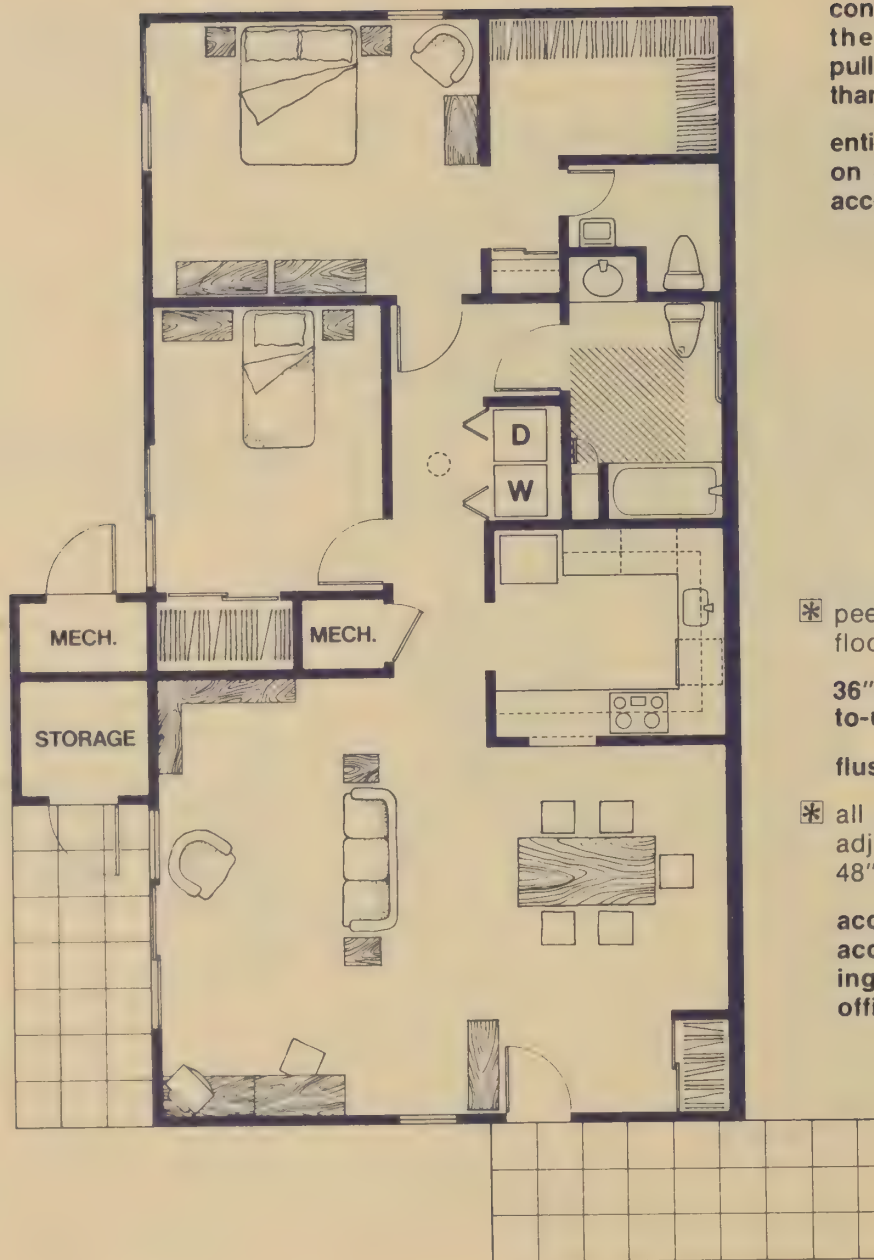
Items in **bold type** are code requirements; those in lighter type are * recommended but not required.



5.3 Code Complying Kitchen



5.3 Recommended Kitchen Features



controls such as switches, thermostats, drapery pulls, etc. must be no more than 48" above the floor

entire floor area must be on one level or otherwise accessible to wheelchairs

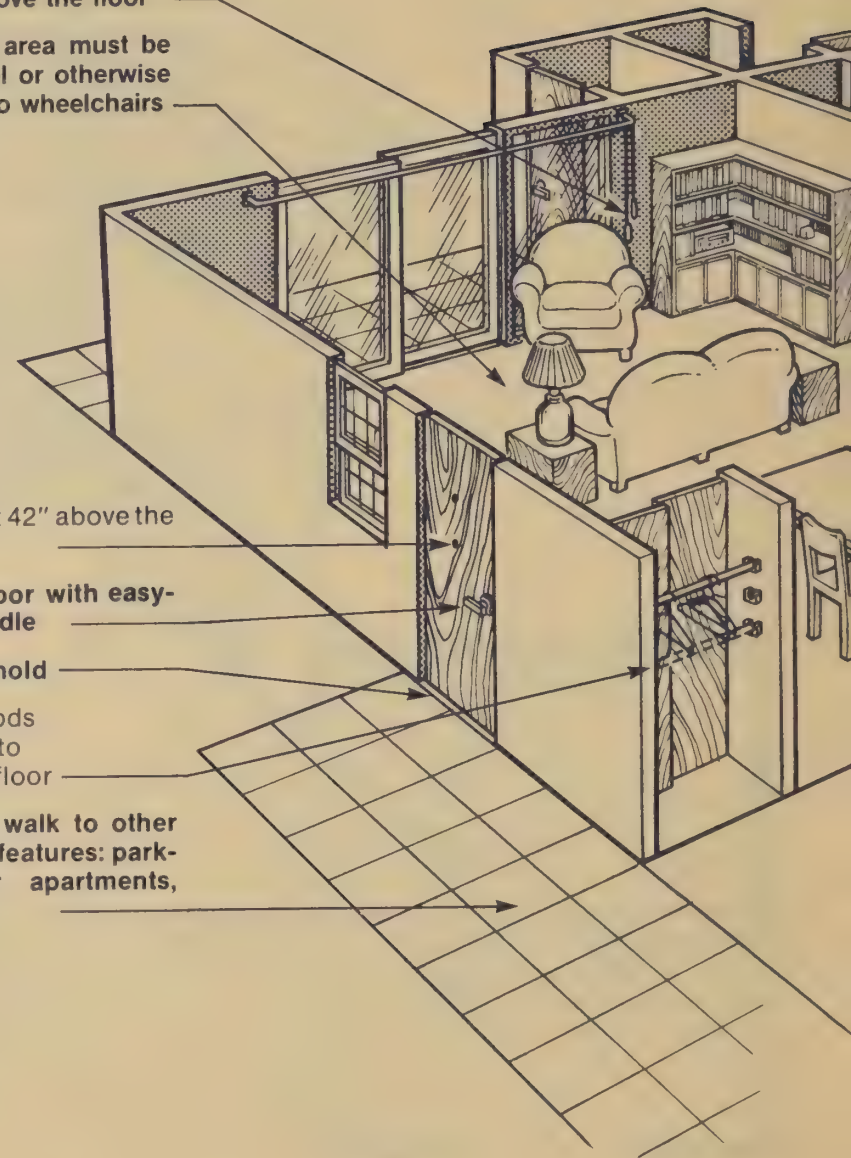
* peephole at 42" above the floor

36" wide door with easy-to-use handle

flush threshold

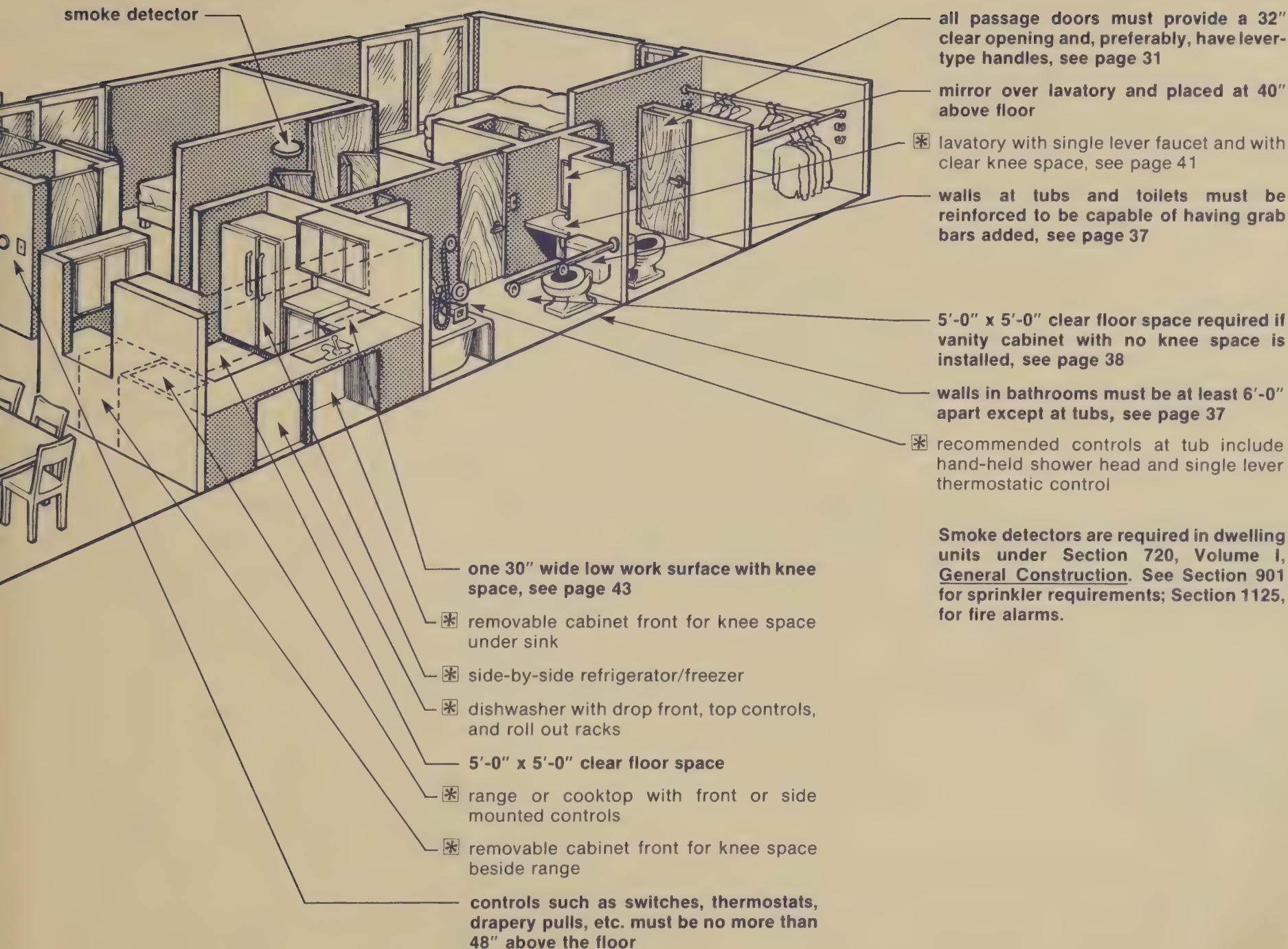
* all closet rods adjustable to 48" above floor

accessible walk to other accessible features: parking, other apartments, office, etc.



5.3 Sample Apartment

Items in **bold type** are code requirements; those in lighter type are * recommended but not required.



Smoke detectors are required in dwelling units under Section 720, Volume I, General Construction. See Section 901 for sprinkler requirements; Section 1125, for fire alarms.



Appendix



Appendix A Additional Recommendations

Site Facilities

All site facilities in both 5.2 and 5.3 should be made accessible. These facilities include garbage collection areas, clothes lines, carwashes, group mailboxes, playgrounds, clubhouses, tennis courts, and swimming pools. Swimming is one type of exercise that many disabled people can participate in and special consideration should be given to making the pool itself accessible. Even if a disabled person cannot get into the water, the pool area should be accessible so that they could go there with a spouse, child, relative, or friend.

Distribution of Accessible Residential Units

The required 5% accessible units should include a variety of apartment types and sizes. The following figures taken from a Batelle research report give a useful guide to the distribution of the accessible units:

- 50% - 1 bedroom
- 40% - 2 bedrooms
- 10% - 3 bedrooms or larger

In a housing or apartment complex accessible units should be located on the site to allow options comparable to those provided the non-handicapped, for example: shaded versus sunny, exposed versus secluded, upper versus lower floors. It is also good policy to locate accessible rooms in multistory buildings near the elevators. Stairway landings are also used as areas of refuge in the event of fire. The design should accomodate this.

Doors and Entrances

If a peephole is placed in the entrance door, a second one should be added at a lower height (42" maximum from the floor) to permit people in wheelchairs and children to use it.

If sliding or pocket doors are used, they should be of good quality and have tracks at top and bottom so that they slide easily and do not come off their tracks.

Auxiliary handles applied to doors on the pull side near the hinge edge and approximately 36" above the floor make it possible for a

disabled person to pull the door closed without reaching back through the opening for the door knob.

Kitchens

Vertical side-by-side type refrigerator/freezers are especially useful because they provide freezer and refrigerator space at all reach levels, and particularly from a wheelchair. This type should be put into the kitchens of accessible residential units.

Single lever-type faucets are recommended for both the kitchen and the bathroom. This type of faucet requires no twisting or grasping and may be operated with one hand. In addition, a spray hose should be installed in the kitchens of accessible units to facilitate food preparation and dish washing. A standard front-opening dishwasher with roll-out baskets and front controls is adequate.

If stoves are equipped with side- or front-mounted controls, people in wheelchairs do not have to reach across lighted or hot burners to operate the controls. The most useful oven for a person in a wheelchair is a built-in model with side-hinged door mounted at counter height.

Bathrooms

In accessible apartments or residential units with only one bathroom, that room should be equipped with a tub. Where there are two areas for bathing, one may have a shower while the other should have a tub/shower combination.

Sliding glass shower doors on tubs should be avoided. Some disabled people need to transfer to the side of the tub before they lower themselves into the water. It is extremely painful to sit on door tracks, even if only for a few seconds.

Do not locate towel racks over toilets, counters or other elements which will make it difficult or impossible for some people to reach them or where they may be used as grab bars.

Accidents often occur in the bathroom and a disabled person might not be able to get to the phone located in another room. It is therefore recommended, especially in hotels and motels, that an additional phone be placed in the bathroom.

Washing Machines and Dryers

Front-loading laundry machines are the most useful for a seated person. In addition, front-mounted controls are convenient for everyone and are recommended for use in accessible residential units.

Shelves and Closet Rods

Adjustable shelves and clothes rods in all cabinets and closets make it possible to position these items to meet each person's needs. Closet rods should be adjustable from at least 48" to 60" above the floor.

Switches

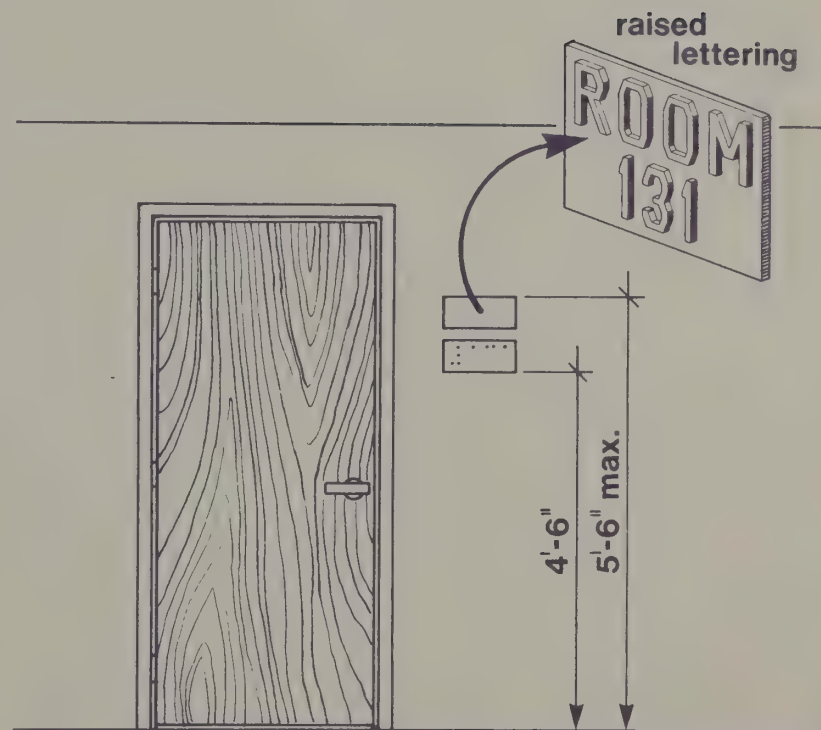
The standard toggle-type light switch is usable by most people if it is mounted no more than 36" to 48" above the floor. However, the push panel type of switch with large touch panels is best and is easier to use.

Provisions for Blind and Deaf People

Spaces and rooms that are used by visually impaired people are required by the code to be identified by a plaque with raised or recessed letters and numerals. Where rooms are given numbers, it is recommended that they all be tactile, and not just those identifying rooms for the visually handicapped.

Blind persons can read tactile non-braille letters and numbers. Braille letters and numerals are available if desired, but they should only be used in addition to visual and tactile letters.

The Code items that are required for the physically handicapped are of little advantage to the visually impaired or blind except for the elimination of unpredictable changes in level. It is not necessary to place a blind person in a room designed to meet the needs of a physically handicapped person. The requirements for the blind within a sleeping room are few. Audible alarms in the event of an emergency are the most crucial. Provisions for the deaf should also be made. Again the most important aspect is a visual or tactile type of alarm, which in this case could be a bed vibrator or flashing light. Both alarm systems could be placed in the same room, but there should be more than one such room with this equipment.



Appendix B

11x the Handicapped Section of the North Carolina State Building Code: Making Buildings and Facilities Accessible to and Usable by the Physically Handicapped

International Symbol of Accessibility for the Handicapped



The International Symbol of Accessibility for the Handicapped should be used and prominently displayed to identify accessible facilities, including, but not limited to, entrances to buildings, elevators, accessible restrooms, water fountains, public telephones, recreation and rest areas, etc.

Any advertising of such facilities, including trademark signs erected to identify facilities, should display the International Symbol of Accessibility.

North Carolina State Building Code Volume I General Construction Section (11X)

Adopted March 13, 1973, by the North Carolina State Building Code Council in Accordance with an Act of the General Assembly of 1957, Chapter 1138

Effective September 1, 1973
Including Amendments through June 24, 1977

**Published By
The North Carolina State Building Code Council and The
North Carolina Department of Insurance
Post Office Box 26387
Raleigh, North Carolina 27611**

Telephone (919)733-3901

[11x]1 Scope

- a) This standard applies to all buildings and facilities regulated by the North Carolina State Building Code, with the exception of single- and two-family detached dwellings, in accordance with the following:

Residential—A (Sleeping Occupancy)

Apartments, hotels, motels, dormitories—This Standard applies to all these buildings where specifically provided for in Section (11X)5.

Business—B

B-1—(Office Occupancy)—This Standard applies to all these buildings except that the requirements of this Standard may be waived by the enforcing authority where the code makes these requirements applicable for small buildings which are already built.

B-2 (Shopping)

Mercantile Stores and Shopping Centers—This Standard applies to all these buildings. Individual toilet rooms in small business establishments, including those within shopping malls, must comply with these requirements.

Schools—C (Educational Facilities)—This Standard applies to all these buildings and as specifically provided for in Section (11X)5.2.

Jails, Prisons, Mental Hospitals, Orphanages and Nursing Homes and Hospitals—This Standard applies to all public areas of these buildings and as specifically provided for in Section (11X)5.2.

Assembly—E

Stadiums, Grandstands, Theaters, Dance Halls, Skating Rinks, etc.—This Standard applies to all public areas of these buildings and as specifically provided for in Section (11X)6 and (11X)7. Assembly areas which are raised above the floor or on an incline need not meet these requirements provided spectator areas which are accessible for the handicapped are designed as a part of such an assembly (Refer to Section (11X)4.5).

Storage—F

Airplane Hangars, Garages and Warehouses

Industrial—G

Industrial Plants—This Standard applies to all these buildings except that the requirements of this standard may be waived by the enforcing authority for garages with attendants, heavy storage or industrial areas and other similar type occupancies.

- b) This Standard is mandatory on all new construction of buildings and facilities as herein defined and identified. The addition of a wing unit to an existing facility shall be considered new construction, of and by itself, and would therefore be mandated under this standard.
- c) This standard is not mandatory for the restoration or authentic reconstruction of buildings designated as historic properties by the State Historic Preservation Officer (Division of Archives and History) acting on behalf of the North Carolina Historical Commission in accordance with the provision of G.S. 121-8 and NCAC 4G. 0600. (For additional information on historic buildings, refer to Section 1009 and 1010.)

[11x]2 Definitions

(11x)2.1—non-ambulatory disabilities

Impairments that, regardless of cause or manifestation, for all practical purposes, confine individuals to wheelchairs.

(11x)2.2—semi-ambulatory disabilities

Impairments that cause individuals to walk with difficulty or insecurity. Individuals using braces or crutches, amputees, arthritics, spastic and those with pulmonary and cardiac ills may be semi-ambulatory.

(11x)2.3—sight disabilities

Total blindness or impairments affecting sight to the extent that the individual functioning in public areas is insecure or exposed to danger.

(11x)2.4—hearing disabilities

Deafness or hearing handicaps that might make an individual insecure in public areas because he is unable to communicate or hear warning signals.

(11x)2.5—disabilities of incoordination

Faulty coordination of palsy from brain, spinal, or peripheral nerve injury.

(11x)2.6—aging

Those manifestations of the aging processes that significantly reduce mobility, flexibility, coordination, and perceptiveness but are not accounted for in the aforementioned categories.

(11x)2.7—ramps, ramps with gradients

The term “ramp” is defined as a sloping walkway which is attached to a building as a means of moving from one floor elevation to another without encountering any obstructions. Ramps are above normal level.

(11x)2.8—walk, walks

The term “walk” is defined as a predetermined, prepared-surface, exterior pathway leading to or from a building which is placed on the same level as the ground level immediately adjacent thereto.

[11x]3—Site Development

(11x)3.1—grading

Access to primary entrances usually considered as major points of pedestrian flow to all buildings to which Section (11X)1.1 applies shall be provided for the handicapped through the proper grading or use of approach ramps. An exception shall

be those primary entrances to residential units in privately owned residential projects, which are not part of schools or institutions, which are not identified in (11X)5.

NOTE: Such accessible entrances shall include primary public entrances connecting public transportation stops; primary entrances connecting parking areas specially designated for the handicapped; primary entrances connecting walkways, between buildings in a given complex (e.g., school campus buildings, apartment buildings, shopping center buildings, etc.)

(11x)3.2—walks

- a) Public walks connecting primary entrances as defined in (11X)3.1 shall be at least 48 inches wide and shall have a gradient no more than 5%. Where handrails are provided, the gradient may be 8.33%.
- b) Such walks shall have a continuous common surface not interrupted by steps or abrupt changes in level greater than ½ inch. Where walks cross driveways or parking lots, they shall blend to a common level by means of curb cuts, and slopes not to exceed 5% gradient. Care should be taken that the curb cut is not in itself a hazard to the blind.
- c) All walks provided under (a) and (b) above shall be provided with a level area no less than 5 feet x 5 feet where they terminate at doors. In no case shall such walks extend less than 1 foot 6 inches beyond the strike jamb on the pull side of the door.

(11x)3.3—parking lots

Parking lots provided for buildings to which Section 1.1 applies shall be provided with parking spaces as follows:

- a) Parking spaces for the handicapped shall be set aside and identified with above parking level signs for use by individuals with physical disabilities.* Painted curb signs are acceptable.

The minimum number of assigned spaces shall be as follows:

- 1) A minimum of one such parking space for the handicapped shall be provided and in addition at least one space per 50 spaces shall be set aside for the handicapped.
- b) Parking spaces identified for the physically handicapped that are placed on the diagonal or vertical shall be a minimum of 12 feet 6 inches wide and shall be located as near as possible to the main public entrance of a single building and centrally located where practical in parking lots that serve more than one building.

*NOTE: General Statute 20-37.5 and 20-37.6 have been amended in the definition of handicapped and parking privileges of the handicapped. Legal signage and use of required parking spaces is included. See Appendix D-6.

[11x]4 Buildings

(11x)4.1—ramps

Ramps to buildings to which Section 1.1 applies shall conform to the following specifications:

- a) A ramp shall not have a slope greater than 1 foot in 12 feet, or 8.33%, and shall be no less than 4 feet clear width and structurally designed to carry a minimum of 100 pounds per sq. ft. live load when free standing.
- b) 1) If ramp slopes 5% or less and there is no drop off, no handrail will be required.

2) If ramp slope is greater than 5%, up to an including 8.33%, and there is no drop off, then one handrail will be required.

3) Where ramp drops off on one or both sides, handrails are required on both sides of ramp.

4) Handrails where required shall be 32 inches in height measured from the surface of the ramp, and extend 1 foot beyond the top and bottom of the ramp, or turn at right angles.
- c) A ramp shall have a finished surface which is hard, relatively smooth, slip resistant and that is non-resilient at all times. (Some surfaces become resilient when exposed to heat, water, etc.)
- d) A ramp shall have a level platform at the top which is at least 5 feet by 5 feet. This platform shall extend at least 1 foot on the side from which the door opens.
- e) Each ramp shall have at least 5 feet of straight level clearance at the bottom.
- f) Straight run ramps shall have 3 feet minimum long intermediate level platforms at 30 foot intervals for purposes of rest and safety and shall have level platforms wherever they turn, at least as wide as the ramp and 5 feet long (deep).

(11x)4.2—entrances

All primary entrances usually considered as major points of pedestrian flow to buildings to which Section 1.1 applies shall be usable by the physically handicapped. An entrance to be usable by the physically handicapped must be approached by a continuous common surface (see 11X3.2 walks; 11X4.1 ramps; and 11X4.5 floors), and have wide doors (see 11X4.3 doors).

(11x)4.3—doors and doorways

Exterior and interior passage doors to which Section (11X)1 applies shall comply with the following requirements:

- a) Exterior and interior passage doors shall have a clear opening of no less than 32 inches when the door is open. Two-leaf doors are not usable unless they operate by a single effort, and one of the two leaves meets this requirement.

- 1) Where revolving doors or turnstiles are used, an adjacent means of ingress/egress within 20 feet shall be provided to meet the requirements of Section (11X) 4.3 (a).
- 2) Where vision panels are used in corridor doors, they should allow visibility to people in wheelchairs. Such vision panels shall be vertically mounted with the bottom of the panel no higher than 3 feet from the finished floor, the panel width not less than 3 inches and the panel length not less than 2 feet 6 inches.
- b) Distance between two doors (e.g. outer and inner) must be a minimum of 6 feet 6 inches.
- c) The floor on the inside and outside of each doorway shall be level and clear for a distance of 5 feet from the door and shall extend one foot beyond the side from which the door opens.
- d) Where framed glass doors are used, the bottom rail shall be a minimum height of 7½ inches. Framed glass doors may be used provided glass is protected to a height of 7½ inches by an applied panel or insert to provide an adequate pushing surface for wheelchair bumpers.
- e) Exterior thresholds shall be beveled with a maximum edge height of ¾ inch. Interior thresholds shall be flush with the floor, or beveled at not more than 5% slope with a maximum edge height of ½ inch.
- f) Where door closers are used, the pressure to open a door shall not exceed 8 pounds for interior doors applied at the handle or pull. At exterior doors or where air pressure differences require greater pressure for closers, pressure must never exceed 15 pounds and should be as light as possible. In the case of fire doors, the closing force must be adequate to assure automatic latching.
- g) Corridors which serve the above doorways shall be no less than 42 inches in width.

(11x)4.3.1—door hardware

Doors that are intended for general public use shall be equipped with door hardware that is easily operable and shall not require the use of fine grasp.

Actuating mechanisms and pulls shall be operable at a height between 30 and 42 inches.

Examples of door hardware which latch and do not require the use of fine grasp are as follows: lever handles, elliptical knobs, heavily faceted knobs, push-pull latches or similar devices. Hold back latches, roller latches, magnetic latches or similar mechanisms are encouraged.

NOTE: Doors for general public use include, but are not limited to, the following: exterior entrance doors; corridor-to-corridor doors; means of egress doors as specified in Section 1102 (a) (except room space doors); doors at reception areas; toilet rooms; public activity spaces (conference rooms, auditoria, cafeterias, classrooms, and similar use spaces) and as may be designated by the Building Official.

Doors to units described in Section (11X)5.1, 5.2 and 5.3 must comply with these requirements.

Where possible doors shall be

- (1) held in the open position, or
- (2) double-egress, or
- (3) push-pull, non-latching, or
- (4) automatically operated, or
- (5) eliminated.

(11x)4.4—stairs

Stairs shall conform to Section 1115 and in buildings to which Section 1.1 applies, the following additional requirements shall be met:

- a) Steps in stairs shall not have abrupt (squared) nosing. One inch rounded nosing is acceptable.
- b) Interior and exterior building stairs—other than stairs to service areas, equipment rooms, penthouses or attics—shall have handrails on both sides which are mounted 2 feet 8 inches high, as measured from the tread at the nosing. In residential occupancies, this requirement applies to those units described in (11X)5.1, 5.2 and 5.3.
- c) Stairs shall have at least one continuous handrail that extends at least 1 foot 6 inches beyond the top step and beyond the bottom step or turned at right angles. Care shall be taken that the extension of the handrails is not in itself a hazard and the extensions should be made on the side of a continuing wall.

(11x)4.5—floors

- a) Floors on a given story shall be a common level throughout or be connected by a ramp in accordance with (11X)4.1(a) through (11X)4.1(f), inclusive, except that thresholds meeting requirements of 4.3(e) may be used. Stages, balconies and bleachers are not required to conform to this requirement.

EXAMPLE 1: There shall not be a difference between the level of the floor of a corridor and the level of the floor of the toilet rooms, unless proper ramps are provided. Consideration should be given to depressing toilet floor construction if ceramic tile is used to provide for common level.

EXAMPLE 2: There shall not be a difference between the level of the floor of a corridor and the level of a meeting room, dining room, or any other room, unless proper ramps are provided.

(11x)4.6—toilet rooms

On every floor where toilet rooms are planned in every building to which Section 1.1 applies, one toilet room for men and one toilet room for women shall have at least one fixture of each type provided, to meet the requirements of this Section (4.6). Each building shall have a minimum of 2% of total fixtures of each type to meet the requirements of this Section (4.6).

Where several toilet rooms with group facilities are provided on a floor, at least one toilet room per floor for men and one for women, if both are provided, shall have at

least one fixture of each type to meet the requirements of Section 4.6(a) through (j).

Where toilet rooms do not have group facilities but are single individual toilet rooms, the toilet room itself shall be considered the toilet stall as well as a toilet room, and at least one such room for men and one such room for women shall meet the requirements of 4.6 (a), (b) 3, 4, 5, (c), (d), (e), (g), (h), (i), (j).

In small business establishments, a toilet stall, as described in (11X)4.6(b), may be accepted as a toilet room with the lavatory in an adjacent space. The space adjacent to the small door shall have the "turn-around" space specified in (11X)4.6 (a).

- a) A minimum of 5 feet x 5 feet clear floor space shall be provided and the entrance door shall be located on one side of this clear width and open out or slide. Where total available floor space is a particularly crucial concern, and where toe space is provided under cabinets, toe space of no more than 6 inches in depth and a minimum of 8¾ inches in height on any one side, can be allowed to supplant part of the 5 feet x 5 feet clear floor space.

EXAMPLE: If toe space 8¾ inches in height and 6 inches in depth were provided under cabinets on two opposite sides of the toilet room, the remaining clear floor space in addition to the toe space is 4 feet x 4 feet. However, if the depth of the toe space is 12 inches on each of two opposite sides of a toilet room, the additional clear floor space would still have to be 4 feet x 4 feet.

- b) Toilet rooms shall have at least one toilet stall that meets the following requirements:

- 1) is at least 3 feet wide.
- 2) is at least 6 feet deep. Note: 5 feet deep stall may be used if wall hung water closets are used.
- 3) Doors shall have a clear opening of not less than 32 inches when open, shall swing out or slide, and shall be operable by a single effort.
- 4) Has a water closet with height to top of seat of no less than 16½ inches and no more than 20 inches. Water closets for children shall meet the requirements for their use.
- 5) Has stainless or chrome plated steel handrails on each side wall. Each handrail shall be 13 inches above the seat height of the water closet and at least 52 inches long. Each handrail shall be parallel to the floor, 1½ inches in outside diameter, shall have 1½ inch clear space between rail and wall, and be fastened securely at ends and center to support a 250 pound load.
- 6) Has a minimum clear floor space of 42 inches in depth and 36 inches in width in front of the stall door.

An alternate acceptable toilet stall must be a minimum of 5 feet wide and a minimum of 5 feet deep, with center line of water closet 1 foot 6 inches from side wall. Door must be 32 inches clear minimum opening with door in 90 degree open position and located diagonally opposite position of water closet. Grab bar shall be mounted on the wall adjacent to water closet, 1½ inches in diameter with 1½ inch clearance to wall and mounted horizontally 13 inches above seat of water closet. Length of bar shall be not less than 3 feet and shall extend 1 foot 6 inches minimum in front of water closet and bar shall be capable of supporting a 250 pound load applied anywhere along its length. Standard toe clearance of toilet stall partition from the finished floor is required.

Where child's size water closets are used, the grab bar shall be 1¼ inches diameter, mounted 10 inches above the seat and with 1½ inches space between bar and wall. Grab bar must be at least 3 feet long and extend 1 foot 6 inches beyond the front edge of the water closet and be capable of supporting a 150 pound load applied anywhere along its length.

- c) Toilet rooms shall have at least one lavatory which when mounted allows a minimum of 30 inches clearance to the bottom of the apron, and a rim height of 34-36 inches above the finished floor. Lever, blade or multi-arm type handles for faucets are required and single lever controls are preferred.
- d) Maximum water temperatures to water outlets serving handicapped fixtures shall not exceed 120°F or exposed hot water lines and drains shall be fully insulated.
- e) When mirrors and shelves are provided, at least one mirror and one shelf shall be placed above lavatories at a height not to exceed 40 inches above the floor, measured from the top of the shelf and the bottom of the mirror.
- f) Toilet rooms for men, where urinals are required, shall have at least one wall-mounted urinal with elongated lip with the rim a maximum height of 17 inches from the floor, or shall have floor-mounted urinals that are on a level with the main floor of the toilet room. Urinals for small children such as elementary school students shall meet the requirements for their use.
- g) Where a towel rack, a towel dispenser and other dispensers and disposal units are provided in toilet rooms, at least 1 of each shall not exceed a height of 40 inches from the floor.
- h) Where showers are provided, 2% or a minimum of one, whichever is greater shall be no less than 3 feet by 3 feet inside dimensions and shall not contain curbs except that thresholds for entering and leaving showers meeting the requirements of Section 4.3 (e) may be used.
- i) Shower stalls equipped for handicapped shall have a floor surface which is non-slip. Where stalls are used, a seat shall be positioned 19 inches above the floor and may be hinged to fold against the wall. The shower seat shall be at least 15 inches in width from the wall and extend a minimum of 30 inches in length the full depth of the shower stall. A grab rail shall be attached to the stall opposite the seat and shall extend around on the back of the wall. The water control shall be lever controlled with flexible hand shower spray, and soap tray shall be placed at a height not to exceed 40 inches above the floor. All controls shall be single lever type. Doors may be used on roll-in showers. Curtains are an acceptable method for closing shower stalls for the handicapped and are preferred.
- j) Minimum toe space of 8¾ inches in height and 6 inches in depth shall be provided for cabinets in the toilet room area.

(11x)4.7—water fountains

In buildings to which Section (11X)1.1 applies and where water fountains are provided, such water fountains shall comply with the following requirements:

- a) Water fountains or coolers shall have upfront spouts and controls.
- b) Water fountains or coolers shall be hand-operated or hand- and foot-operated.
- c) Where provided, at least one per floor conventional wall or floor-mounted water cooler shall have a small fountain mounted on the side of the cooler, with the edge of the small fountain basin no higher than 30 inches above the floor. Wall-mounted, hand-operated coolers serve the able-bodied and the physically disabled when the cooler is mounted with the edge of the basin 36 inches from the floor.

(11x)4.8—telephones

See appendix B for recommendations.

(11x)4.9—elevators

- a) Unless ramps meeting the requirements of (11x)4.1 are provided to serve each floor level, at least one elevator shall be provided as follows:
 - 1) All buildings over 2 stories in height with occupancy of 100 or more persons above or below the main entrance floor, other than as specified below.
 - 2) All administrative buildings of County, Municipal and State Government over 1 story.
 - 3) All publicly-owned school buildings and other privately-owned buildings of similar occupancy (such as full-time, privately-owned schools, colleges, and universities) over one story and all non-publicly owned school buildings over three stories with over 200 persons above or below the main entrance floor level. Basements with over 100 persons are counted as a story for the purpose of this section.
 - 4) All buildings over three stories regardless of the number of persons or occupancy classification with the exception of privately-owned schools or institutional buildings.
 - 5) All privately-owned residential buildings shall have elevators in buildings over three stories.
- b) Elevators shall be accessible to, and usable by, the physically disabled at all levels normally used by the general public.
- c) In no case shall interior cab dimensions of elevators normally used by the public for buildings over three stories in height be less than 5 feet x 5 feet square, or 63 inches x 56 inches rectangular, or 80 inches x 51 inches rectangular (a standard industrial size elevator). In buildings three stories and less in height the elevator may be 72 inches x 44 inches minimum 2000 pounds capacity. In passenger operated elevators, all necessary operating controls, buttons and emergency signaling devices shall be mounted between 2 feet 11 inches and 4 feet 6 inches above the floor and shall be identified with raised arabic numerals or industry-recommended symbols to the left of the controls. Numerals or symbols shall be at least ½ inch high and raised or recessed a minimum of .030 inch; they shall be permanently attached and on color contrasting background.

Hall Buttons. The centerline of the hall call buttons shall be a nominal 42 inches above the floor.

Direction buttons, exclusive of border, shall be a minimum of ¾ inch in size, raised, flush or recessed. Visual indication shall be provided to show each call registered and extinguished when the call is answered. Depth of flush or recessed buttons when operated shall not exceed ⅜ inch.

- d) All elevators shall be so adjusted/controlled that the floor of the elevators when stopped, will conform to building floor levels with a ½ inch tolerance.
- e) Door Protective & Reopening Device. Doors closed by automatic means shall be provided with a door reopening device which will function to stop and reopen a car door and adjacent hoistway door in case the car door is obstructed while closing. This reopening device shall also be capable of sensing an object or person in the path of a closing door without requiring contact for activation at a nominal 5 inches and 2 feet 5 inches above the floor. Door reopening devices shall remain effective for a period of not less than 20 seconds. After this time, doors may close in accordance with the latest edition of ANSI A17.1.
- f) Car Position Indicator & Signal. A car position indicator shall be provided above the car operating panel or over the opening of each car to show the position of the car in the hoistway by illumination of the indicator corresponding to the landing at which the car is stopped or passing. Indications shall be on a contrasting background and a minimum of ½ inch in height. In addition, an audible signal shall sound to tell a passenger that the car is stopping or passing a floor served by the elevator.

Special button located with emergency controls may be provided. Operation of button will activate audible signal only for desired help.

Hall Lantern. A visual and audible signal shall be provided at each hoistway entrance indicating to the prospective passenger the car answering the call and its direction of travel. The visual signal for each direction shall be a minimum of 2 inches in size and visible from the proximity of the hall call button. The audible signal shall sound once for the up direction and twice for the down direction. The center line of the fixture shall be located a minimum of 6 feet from the floor. The use of in-car lanterns conforming to above and located in jamb shall be acceptable.

- g) Door Jamb Marking. The floor designation shall be provided at each hoistway entrance on both sides of jamb at a height of 5 feet above the floor. Designations shall be on a contrasting background a minimum of 2½ inches high and raised .030 inch. Applied plates permanently attached shall be acceptable.

(11x)4.10—controls

Switches and controls for light and ventilation—including windows, draperies, thermostatic controls (which can be adjusted without the use of tools), fire alarms, doors and all similar devices—where intended to be operable by occupant, shall be placed no higher than 4 feet from the floor.

(11x)4.11—identification

- a) Spaces that would normally be utilized by the visually handicapped (i.e., reception, toilet rooms) shall be identified by a plaque with raised or notched letters and/or numbers. This plaque shall be next to an entrance doorway at a height between 4 feet 6 inches and 5 feet 6 inches, measured from the floor, and shall be on the side nearest the door handle when the door is closed.
- b) Doors to stairs, loading platforms, boiler rooms, mechanical equipment spaces, stages and fire escapes and other hazardous areas shall have knurled or carborundum-epoxy abrasive coated door handles or knobs.

[11x]5 Minimum Requirements for Residential and Institutional Occupancies

For the purpose of this Section, a residential project shall be defined as one residential building or a group of related residential buildings (such as those shown on a plat filed with a municipal or county planning department showing the relative location of buildings).

In no instance, shall units designated to be accessible to the handicapped be segregated from other units within the project by design (e.g. setting aside all residential units for the handicapped in one residential building in a large project instead of equally distributing the units designed for the handicapped throughout the project).

(11x)5.1—minimum requirements for privately-owned residential occupancies including condominiums (see recommendations in appendix C)

(11x)5.2—minimum requirements for the construction of publicly-owned residential projects and privately-owned hotels, motels, residential school and institutional projects

In addition to other requirements set forth in other sections of the Handicapped Section of the North Carolina State Building Code, the following standards are minimum requirements:

- a) Where 1 or more toilet rooms are provided in an individual residential unit or suite of residential units of publicly-owned projects or privately-owned hotels,

motels, school and institutional projects, a minimum of 5% or a minimum of 1, whichever is greater, toilet rooms shall comply with (11X)4.6 (a), (b) 3, 4, 5, (d), (e), and (j), and have walls capable of supporting handrails which can support a 250 pound load.

- b) Where kitchens are provided in individual residential units or suites of residential units of publicly-owned residential projects or privately-owned school or institutional projects, those kitchens shall comply with Appendix C, Subparagraph (b)2, 8, 13 and 14.

(11x)5.3—minimum requirements for the construction of privately owned residential units intended to be rented or leased in residential projects with more than 10 individual residential units.

In addition to other requirements in other sections of the Handicapped Section of the North Carolina State Building Code, with the exception of (11X) 4.6, 4.7, 4.8, 4.11, 5.1, 5.2, 6 and 7, 5% or a minimum of one unit, of all individual residential units to be rented or leased in privately-owned residential projects with more than 10 individual residential units, which are not school or institutional, shall meet the following minimum requirements (Note: The other requirements of Code to be met for such units include accessible primary entrances, connecting walkways, etc.):

- a) The individual dwelling unit or suite must be on one level throughout unless other levels are accessible by wheelchair.
- b) Kitchens shall meet or be adjustable to meet the following requirements:
 - 1) A minimum of five feet clear floor space between opposite cabinets or opposite cabinets and walls shall be provided to allow for wheelchair turns, except where 6 inches in depth and 8¾ inches in height toe space is provided. The entrance door shall open out or slide. Where total available floor space is particularly crucial, and where toe space is provided under cabinets, toe space of no more than 6 inches in depth and a minimum of 8¾ inches in height on any one side can be allowed to supplant part of the 5 feet by 5 feet clear floor space.

EXAMPLE: If toe space 8¾ inches in height and 6 inches in depth is provided on opposite sides under cabinets, then the clear floor space can be 4 feet x 4 feet. However, if the depth of the toe space is 12 inches on each opposite sides of a kitchen room, the additional clear floor space would still have to be 4 feet x 4 feet.
 - 2) For seated work in a chair or a wheelchair, an opening shall be provided under the counter for knee space. This opening shall be a minimum of 30 inches in width, 29 inches in height, and 24 inches in depth or the top of the counter under which this knee space is provided shall pull out or be adjustable and be a minimum of 30 inches in width, 24 inches in depth, and no higher than 30½ inches from the floor.
 - 3) The door opening shall be no less than 32 inches clear opening. The door shall swing out or side.

- c) One full bathroom in each unit or suite shall meet or be adjustable to meet the following requirements:
 - 1) The clear door opening shall be no less than 32 inches. The door shall swing out or slide.
 - 2) A minimum of 6 feet width between walls shall be required except at the end of the tub wall.
 - 3) A self-supporting wall-hung lavatory mounted 30 inches to apron shall be provided where 5 feet by 5 feet floor space is not provided.
 - 4) Walls shall be capable of supporting handrails which can support a 250 pound load.
 - 5) Where mirrors are provided, at least one mirror shall be placed above lavatories no higher than 40 inches above the floor, measured from the bottom of the mirror.
 - 6) Where provided, toilet rooms shall have at least one towel rack mounted at a height not to exceed 40 inches from the floor.
 - 7) The maximum hot water temperature for all plumbing fixtures shall not exceed 120° F or exposed hot water lines and drains shall be fully insulated.

(11x)6—seating for assembly

In places of assembly with fixed type seating and a capacity greater than 75 seats, identified spaces for the wheelchair handicapped shall be provided at a rate of no less than 1%, or a minimum of one, whichever is greater, or the total seating capacity. An additional number of identified seats equal to 1%, or a minimum of one, whichever is greater, of the total seating capacity shall be set aside for the handicapped with crutches and/or walkers.

- a) Such spaces and seating shall be located as an integral part of the overall floor plan of said assembly area.
- b) Seats and spaces shall be designed to conform with the requirements of accessibility for wheelchairs and crutches described in Appendix A.

[11x]7 Instructional Facilities, Dining Halls, and Other Areas Utilizing Fixed Facilities

- a) Where fixed tables are used, a minimum of 2%, or at least one, shall have 29 inches clearance under the table top, and if aprons are greater than 2 inches, they shall be recessed 1 foot. In dining areas and libraries, all fixed tables shall meet this requirement.
- b) Width between fixed tables shall be a minimum of 5 feet 5 inches.

- c) Outside rail heights of fixed tray slides in dining areas shall be no greater than 34 inches.
- d) Aisles between fixed tray slides and control railings in dining areas shall be a minimum of 34 inches.
- e) In areas with 24 or more fixed stations or seats (e.g., lecture halls, libraries, dining areas, and other work or study areas), or 2%, or at least one station or seat, shall be designed to conform with the requirements of accessibility for wheelchairs and crutches described in Appendix A.
- f) In laboratories and other work or study areas using work benches, each "handicapped station" shall have a low work bench with a clear minimum of 29 inches, (floor to underside of work area) and shall not have an apron.
- g) Aisles between fixed work benches shall have a minimum clear width of 3 feet.
- h) Aisles between fixed stacks in libraries shall be a minimum width of 42 inches. Exception: In additions and remodeling in which aisle spaces are restricted by existing multi-tiered stack structural systems which must be maintained throughout the building, and where floor to floor heights must be maintained, aisles may be a minimum of 32 inches. Thirty-two inch (32") aisle space is also permissible in closed stack areas where egress is provided at both ends. Forty-two inch or 32 inch aisle space in library stacks must be clear.

Appendix A—Design Specifications

(1)—wheelchair specifications

The collapsible-model wheelchair of tubular metal construction with plastic upholstery for back and seat is most commonly used. The standard model of all manufacturers falls within the following limits, which were used as the basis of consideration.

- 1) Length: 42 inches
- 2) Width, when open: 27 inches average, 29 inches maximum
- 3) Height of seat from floor: 19½ inches
- 4) Height of armrest from floor: 29 inches
- 5) Width, when collapsed: 11 inches

(2)—fixed turning radius, wheel to wheel

- a) The fixed turning radius of a standard wheelchair, wheel to wheel, (the tracking of the caster wheels and large wheels of a wheelchair when pivoting on a spot) is 18 inches.
- b) The fixed turning radius, front structure to rear structure, (the turning radius of a wheelchair, left front-foot platform to right rear wheel, or right front-foot platform to left rear wheel, when pivoting on a spot) is 36 inches. The average turning space required is 63 inches x 63 inches.

NOTE: Actually, a turning space that is longer than it is wide, specifically 63 x 56 inches, is more workable and desirable. In an area with two open ends, such as might be the case in a corridor, a minimum of 54 inches between two walls would permit a 360-degree turn.

- c) A minimum width of 60 inches is required for two individuals in wheelchairs to pass each other.

(3)—the individual functioning in a wheelchair

Extremely small, large, strong, or weak and involved individuals could fall outside the ranges of reach and their reach could vary. However, these reaches were determined using a large number of individuals who were functionally trained, with a wide range in individual size and involvement.

- a) The average unilateral vertical reach is 60 inches and ranges from 54 inches to 78 inches.
- b) The average horizontal working (table) reach is 30.8 inches and ranges from 28.5 inches to 33.2 inches.
- c) The bilateral horizontal reach, both arms extended to each side, shoulder high, ranges from 54 inches and averages 64.5 inches.
- d) An individual reaching diagonally, as would be required in using a wall-mounted dial telephone or towel dispenser, would make the average reach (on the wall) 48 inches from the floor.

(4)—the individual functioning on crutches and walkers

Most individuals ambulating on braces or crutches, or both, or on canes are able to manipulate within the specifications prescribed for wheelchairs, although doors present quite a problem at times. However, attention is called to the fact that a crutch tip extended laterally from an individual is not obvious to others in heavily trafficked areas, certainly not as obvious or protective as a wheelchair and is, therefore, a source of vulnerability.

- a) On the average, individuals 5 feet 6 inches tall require 31 inches between crutch tips in the normally accepted gaits.
- b) On the average, individuals 6 feet tall require 32.5 inches between crutch tips in the normally accepted gaits.

Appendix B—Public Telephones

All “banks” of public telephones should have at least one telephone which can be used by the physically disabled, including those in wheelchairs and those with hearing and sight disabilities.

The following are minimum requirements:

- a) The dial and headset shall be placed no more than 4 feet above the floor.
- b) The telephone shall be equipped for those with hearing disabilities with an adjustable volume control for the headset with instructions for use.
- c) The telephone shall be equipped for those with sight disabilities with visual and tactile instructions for use. Large tactile letters shall be used for instructions.
- d) On every floor where telephones are installed, at least one should be placed so that the dial and headset are no more than 4 feet above the floor, and equipped for those with hearing and sight disabilities and so identified with visual and tactile instructions for use.

Appendix C—Minimum Suggestions for the Construction of Privately Owned Residential Projects with Residential Units Intended to be Sold, Primarily to the Physically Handicapped and/or Elderly

(Specifications Derived from Guidelines Utilized by the Department of Housing and Urban Development)

In addition to other requirements set forth in other sections of the Handicapped Section of the North Carolina State Building Code, 1 out of every 10 residential units should meet the requirements of this Section.

- a) The individual dwelling unit or suite must be on one level throughout.
- b) Kitchens shall meet or be adjustable to meet the following requirements:
 - 1) All work surfaces shall not exceed 34 inches in height except for the portion over a built-in dishwasher.
 - 2) Normal base cabinet toe space shall be 6 inches minimum in depth and 8¾ inches minimum in height.
 - 3) The cooking range-oven combination shall be the drop-in type that will allow for the required toe space and all controls shall be on the front. Where separate cooking surfaces and oven are used, all controls shall be on the front. Top of the oven housing shall not exceed 52 inches in height above the floor.
 - 4) Controls for vent hoods and lights over cooking units shall be mounted in the counter tops.
 - 5) An open space under the sink shall be provided. This space shall be centered with the sink and be no less than 2 feet 6 inches wide and 2 feet 5 inches high. Sink drains shall be trapped as near to the back wall of the cabinet as possible.
 - 6) Sink bowl shall not exceed 5 inches in depth.
 - 7) The bottom of all wall cabinets shall not be greater than 16 inches above the work surface of the base cabinet except for those cabinets over cooking surfaces, ovens and refrigerators. All shelving in wall cabinets shall be adjustable.
 - 8) A minimum of 5 feet clear floor space between opposite cabinets or opposite cabinets and walls shall be provided to allow for wheelchair turns except where 6 inches in depth and 8¾ inches in height toe space is provided in accordance with (11X)4.6(a).

- 9) Hot water controls shall be provided to insure a maximum temperature of 120°F for water at the sink or exposed hot water lines and drains shall be fully insulated.
 - 10) Sink faucets shall be of the single lever type.
 - 11) Kitchen pantries or cabinets used for pantry storage shall have adjustable shelves.
 - 12) Refrigerators, where provided, shall be self-defrosting or frostfree.
 - 13) For seated work in a chair or a wheelchair, an opening shall be provided under the counter for knee space. This opening shall be a minimum of 30 inches in width, 29 inches in height, and 24 inches in depth. The top of the counter under which this knee space is provided, shall be a minimum of 30 inches in width, 24 inches in depth, and no higher than 30 inches from the floor.
 - 14) Doors shall have a clear opening of not less than 32 inches when open, shall swing out or slide, and shall be operable by a single effort.
- c) All closets shall meet the following requirements:
- 1) Hanging poles shall be adjustable from 4 feet above the floor to 5 feet 4 inches above the floor.
 - 2) Closet shelves shall be adjustable from 4 feet 2 inches above the floor to 5 feet 6 inches above the floor.
- d) Each bathroom in each unit or suite shall meet or be adjustable to meet the following requirements:
- 1) Doors shall have a clear opening of not less than 32 inches when open, shall swing out or slide and shall be operable by a single effort.
 - 2) A minimum of 5 feet x 5 feet clear floor space between opposite cabinets or opposite cabinets and walls shall be provided to allow for wheelchair turns except where 6 inches depth by 8¾ inches height toe space is provided in accordance with (11X) 4.6 (a) with entrance door located on one side of this clear floor space.
 - 3) Stainless steel handrails shall be provided on each side wall. Each handrail shall be 13 inches above the toilet seat and 52 inches long. Each handrail shall be parallel to the floor, 1½ inches in outside diameter, shall have 1½ inches clear space between rail and wall, and be fastened securely at ends and center to support a 250 pound load.
 - 4) Lavatories shall be mounted 2 feet 10 inches above the floor to the top of the lavatory and drains shall be trapped as near to the wall as possible.
 - 5) The front of the lavatory shall be no less than 22 inches from the wall.
 - 6) Lavatories and counter tops, where provided, shall not exceed 5 inches in depth.
 - 7) The maximum hot water temperature for all plumbing fixtures shall not exceed 120°F; or exposed hot water lines and drains shall be fully insulated.
 - 8) Showers, where provided, shall be no less than 3 feet 4 inches x 4 feet 6 inches clear inside and shall not contain curbs. Doors or openings to showers shall be 3 feet 2 inches minimum in width and open out. The floor surface shall be non-slip. A seat shall be positioned 19 inches above the floor and shall be hinged to fold against the wall. A grab rail shall be attached to the stall wall opposite the seat and shall extend around on the back of the wall. The water control, diversionary shower spray and soap tray shall be placed at a height not to exceed 40 inches above the floor. All controls shall be single lever type.
 - 9) All water supply controls for lavatories and tubs shall be single lever controls.
 - 10) When mirrors and shelves are provided, at least one mirror and one shelf shall be placed above lavatories no higher than 40 inches above the floor, measured from the top of the shelf and the bottom of the mirror.
 - 11) Medicine cabinets shall have adjustable shelves with top of the cabinet mounted no higher than 6 feet above the floor.
 - 12) Where provided, toilet rooms shall have at least one towel rack, at least one towel dispenser, and at least one other dispenser and disposal unit mounted at a height not to exceed 40 inches from the floor.
 - 13) Minimum toe space of 8¾ inches in height and 6 inches in depth shall be provided for cabinets in the toilet room.
- e) Window stool heights, except in bathrooms and kitchens, shall not exceed 30 inches above the floor.
- f) All electrical wall outlets shall be mounted a minimum of 16 inches above the floor, except to meet special requirements in kitchen and bathroom areas.

Appendix D—Related Handicapped Legislation

1—An Act to Provide for Treatment of Handicapped and Disabled Persons Equal to that Afforded Other Persons N. C. General Statutes 168-1 through 168-10

ARTICLE 1.

Rights.

§ 168-1. Purpose and definition. — The State shall encourage and enable handicapped persons to participate fully in the social and economic life of the State and to engage in remunerative employment. The definition of "handicapped persons" shall include those individuals with physical, mental and visual disabilities. For the purposes of this Article the definition of "visually handicapped" in G.S. 111-11 shall apply (1973, c. 493, s. 1.)

Editor's Note. — Session Laws 1973, c. 493, s. 3, makes the act effective July 1, 1973.

§ 168-2. **Right of access to and use of public places.** — Handicapped persons have the same right as the able-bodied to the full and free use of the streets, highways, sidewalks, walkways, public buildings, public facilities, and all other buildings and facilities, both publicly and privately owned, which serve the public. (1973, c. 493, s. 1.)

§ 168-3. **Right to use of public conveyances, accommodations, etc.** — The handicapped and physically disabled are entitled to accommodations, advantages, facilities, and privileges of all common carriers, airplanes, motor vehicles, railroad trains, motor buses, streetcars, boats, or any other public conveyances or modes of transportation; hotels, lodging places, places of public accommodation, amusement or resort to which the general public is invited, subject only to the conditions and limitations established by law and applicable alike to all persons. (1973, c. 493, s. 1.)

§ 168-4. **May be accompanied by guide dog.** — Every visually handicapped person shall have the right to be accompanied by a guide dog, especially trained for the purpose, in any of the places listed in G.S. 168-3 provided that he shall be liable for any damage done to the premises or facilities by such dog. (1973, c. 493, s. 1.)

§ 168-5. **Traffic and other rights of persons using certain canes.** — The driver of a vehicle approaching a visually handicapped pedestrian who is carrying a cane predominantly white or silver in color (with or without a red tip) or using a guide dog shall take all necessary precautions and avoid injury to such pedestrian. (1973, c. 493, s. 1.)

§ 168-6. **Right to employment.** — Handicapped persons shall be employed in the State service, the service of the political subdivisions of the State, in the public schools, and in all other employment, both public and private, on the same terms and conditions as the able-bodied, unless it is shown that the particular disability impairs the performance of the work involved. (1973, c. 493, s. 1.)

§ 168-7. **Guide dogs.** — Every visually handicapped person who has a guide dog, or who obtains a guide dog, shall be entitled to keep the guide dog on the premises leased, rented or used by such handicapped person. He shall not be required to pay extra compensation for such guide dog but shall be liable for any damage done to the premises by such a guide dog. (1973, c. 493, s. 1.)

§ 168-8. **Right to habilitation and rehabilitation services.** — Handicapped persons shall be entitled to such habilitation and rehabilitation services as available and needed for the development or restoration of their capabilities to the fullest extent possible. Such services shall include, but not be limited to, education, training, treatment and other services to provide for adequate food, clothing, housing and transportation during the course of education, training and treatment. Handicapped persons shall be entitled to these rights subject only to the conditions and limitations established by law and applicable alike to all persons (1973, c. 493, s. 1.)

§ 168-9. **Right to housing.** — Each handicapped citizen shall have the same right as any other citizen to live and reside in residential communities, homes, and group homes, and no person or group of persons, including governmental bodies or political subdivisions of the State, shall be permitted, or have the authority, to prevent any handicapped citizen, on the basis of his or her handicap, from living and residing in residential communities, homes, and group homes on the same basis and conditions as any other citizen. Nothing

herein shall be construed to conflict with provisions of Chapter 122 of the General Statutes. (1975, c. 635, s. 1.)

Editor's Note. — Session Laws 1975, c. 635, s. 1, makes the above section effective June 17, 1975.

§ 168-10. **Eliminate discrimination in treatment of handicapped and disabled.** — Each handicapped person shall have the same consideration as any other person for individual accident and health insurance coverage, and no insurer, solely on the basis of such person's handicap, shall deny such coverage or benefits. The availability of such insurance shall not be denied solely due to the handicap, provided, however, that no such insurer shall be prohibited from excluding by waiver or otherwise, any pre-existing conditions from such coverage, and further provided that any such insurer may charge the appropriate premiums of fees for the risk insured on the same basis and conditions as insurance issued to other persons. Nothing contained herein or in any other statute shall restrict or preclude any insurer governed by Chapter 57 or Chapter 58 of the General Statutes from setting and charging a premium or fee based upon the class or classes of risks and on sound actuarial and underwriting principles as determined by such insurer, or from applying its regular underwriting standards applicable to all classes of risks. (1977, c. 894, s. 1.)

Editor's Note. — Session Laws 1977, c. 894, s. 1, makes the act effective January 1, 1978.

2—An Act to Prescribe Standards for Curb Ramps or Curb Cuts for Handicapped Persons N. C. General Statutes 136-44.14

§ 136-44.14. **Curb ramps or curb cuts for handicapped persons.**

a) Curbs constructed on each side of any street or road, where curbs and sidewalks are provided and at other major points of pedestrian flow, shall meet the following minimum requirements:

- 1) No less than two curb ramps or curb cuts shall be provided per lineal block, located at intersections.
- 2) In no case, shall the width of a curb ramp or curb cut be less than 40 inches.
- 3) The maximum gradient of such curb ramps or curb cuts shall be eight and thirty-three one-hundredths percent (8.33%) (12 inches slope for every one-inch rise) in relationship to the grade of the street or road.
- 4) One curb ramp or curb cut may be provided under special conditions between each radius point of a street turnout of an intersection, if adequate provisions are made to prevent vehicular traffic from encroaching on the ramp.

- b) Minimum requirements for curb ramps or curb cuts under subsection (a) shall be met (i) in the initial construction of such curbs, and (ii) whenever such curbs are reconstructed, including, but not limited to, reconstruction for maintenance procedures and traffic operations, repair, or correction of utilities.
- c) The Department of Transportation, Division of Highways, Design Section, is authorized and directed to develop guidelines to implement this Article in consultation with the Governor's Study Committee on Architectural Barriers (or the Committee on Barrier-Free Design of the Governor's Committee on Employment of the Handicapped if the Governor's Study Committee on Architectural Barriers ceases to exist). All curb ramps or curb cuts constructed or reconstructed in North Carolina shall conform to the guidelines of the Highway Design Section.
- d) The Department of Transportation, Division of Highways, Highway Design Section, is authorized and directed to provide free copies of this Article together with implementary guidelines and standards, to municipal and county governments and public utilities operating within the State. (1973, c. 718, ss. 1-4.)

Editor's Note.—Session Laws 1973, c. 718, s. 5, makes the act effective Sept. 1, 1973.

3—An Act to Provide Tax Credits for Removal of Architectural Barriers to the Handicapped **N. C. General Statutes 105-130.5(a) (8), (b) (10), and (c) (24)**

§ 105-130.5. Adjustments to federal taxable income in determining State net income.

- a) The following additions to federal taxable income shall be made in determining State net income:
 - 8) Depreciation or amortization claimed for federal income tax purposes in connection with facilities for the handicapped as such facilities are defined in subdivision (10) of subsection (b) of this section, provided the cost of such facilities has been previously deducted for State income tax purposes.
- b) The following deductions from federal taxable income shall be made in determining State net income:
 - 10) The entire amount of the cost of renovation to an existing building or facility owned by a taxpayer in order to permit physically handicapped persons to enter and leave such building or facility or to have effective use of the accommodations and facilities therein. The deduction shall be taken in the year the renovation is completed, and shall be made in lieu of any depreciation or amortization of the cost of such renovation. "Building or facility" shall mean only a building or facility, or such part thereof as is intended to be used, and is actually used, by the general public. If such building or

facility is owned by more than one owner, the cost of renovation shall be apportioned among or between the owners as their interests may appear. The minimum renovation required in order to entitle a taxpayer to claim the deduction herein provided shall include one or more of the following: the provision of ground level or ramped entrances, free movement between public use areas, and washroom and toilet facilities accessible to and usable by physically handicapped persons.

- c) The following other adjustments to federal taxable income shall be made determining State net income:

- 24) Deduction for Removal of Architectural Barriers to the Handicapped.—Any taxpayer who shall renovate an existing building or facility owned by such taxpayer in order to permit physically handicapped person to enter and leave such building or facility, or to have effective use of the accommodations and facilities therein shall be allowed a deduction for the entire amount of the cost of such renovation. The deduction shall be allowable in the year the renovation is completed and shall be in lieu of any depreciation or amortization of the cost of such renovation. "Building or facility" shall mean only a building or facility, or such part thereof as is intended to be used, and is actually used, by the general public. If such building or facility is owned by more than one owner, the cost of renovation shall be apportioned among or between the owners as their interests may appear. The minimum renovation required in order to entitle a taxpayer to claim the deduction herein provided shall include one or more of the following: the provision of ground level or ramped entrances, free movement between public use areas, and washroom and toilet facilities accessible to and usable by physically handicapped persons. (1939, c. 158, s. 322; 1941, c. 50, s. 5; 1943, c. 400, s. 4; c. 668; 1945, c. 708, s. 4; c. 752, s. 3; 1947, c. 501, s. 4; c. 894; 1949, c. 392, s. 3; 1951, c. 643, s. 4; c. 937, s. 4; 1953, c. 1031, s. 1; c. 1302, s. 4; 1955, c. 1100, s. 1; c. 1331, s. 1; cc. 1332, 1342; c. 1343, s. 1; 1957, c. 1340, ss. 4, 8; 1959, c. 1259, s. 4; 1961, c. 201, s. 1; c. 1148; 1963, c. 1169, s. 2; 1965, c. 1048; 1967, cc. 259, 550; c. 892, s. 6; c. 1110, s. 3; c. 1252, s. 2; 1969, cc. 725, 1082, 1123; c. 1175, s. 2; 1971, c. 1087, s. 2; c. 1206, s. 2.)

4—An Act to Amend the Income Tax Act to Provide a Credit Against Income Tax for the Construction of Dwelling Units Which Satisfy North Carolina Building Code Standards for Handicapped Living Units **House Bill 1224, ratified by General Assembly of North Carolina, 1973 Session (2nd Session, 1974)**

The General Assembly of North Carolina enacts:

Section 1: Division I of Article 4, Subchapter I of Chapter 105 of the North Carolina General Statutes is hereby amended by adding a new section thereto to be designated as G. S. 105-130.22 and to read as follows:

§ 105-130.22 Tax Credit for construction of dwelling units for handicapped persons.

— There shall be allowed to corporate owners of multi-family rental units located in North Carolina as a credit against the tax imposed by this division, an amount equal to five hundred fifty dollars (\$550.00) for each dwelling unit constructed by such corporate owner which conforms to the requirements of Section (11x) of the North Carolina Building Code for the taxable year within which the construction of such dwelling unit is completed; provided, that credit will be allowed under this section only for the number of such dwelling units completed during the taxable year which were required to be built in compliance with Section (11x) of the North Carolina Building Code (This provision shall be effective with respect to taxable years beginning on and after January 1, 1979.); provided further, that if the credit allowed by this section exceeds the tax imposed by this division reduced by all other credits allowed by the provisions of this division, such excess shall be allowed against the tax imposed by this division for the next succeeding year; and provided further, that in order to secure the credit allowed by this section the corporation shall file with its income tax return for the taxable year with respect to which such credit is to be claimed, a copy of the occupancy permit on the face of which there shall be recorded by the building inspector the number of units completed during the taxable year which conforms to Section (11x) of the North Carolina Building Code. When he has recorded the number of such units on the face of the occupancy permit, the building inspector shall promptly make and forward a copy of the permit to the Special Office for the Handicapped, Department of Insurance (This provision shall be effective with respect to taxable years beginning on and after January 1, 1979.)"

Section 2: Division II of Article 4, Subchapter I of Chapter 105 of the North Carolina General Statutes is hereby amended by adding a new section thereto to be designated as G. S. 105-151.1 and to read as follows:

"§ 105-151.1 Tax credit for construction of dwelling units for handicapped persons. —

There shall be allowed to resident owners of multi-family rental units located in North Carolina as a credit against the tax imposed by this division, an amount equal to five hundred fifty dollars (\$550.00) for each dwelling unit constructed by such resident owner which conforms to the recommendations of Section (11X) of the North Carolina Building Code for the Taxable year within which the construction of such dwelling unit is completed; provided, that credit will be allowed under this section only for the number of such dwelling units completed during the taxable year which were required to be built in compliance with Section (11X) of the North Carolina Building Code (This provision shall be effective with respect to taxable years beginning on and after January 1, 1979.); provided further, that, if the credit allowed by this section exceeds the tax imposed by this division reduced by all other credits allowed by the provisions of this division, such excess shall be allowed against the tax imposed by this division for the next succeeding year; and provided further, that in order to secure the credit allowed by this section the taxpayer shall file with his income tax return for the taxable year with respect to which such credit is to be claimed, a copy of the occupancy permit on the face of which there shall be recorded by the building inspector the

number of units completed during the taxable year which conform to Section (11X) of the North Carolina Building Code. When he has recorded the number of such units on the face of the occupancy permit, the building inspector shall promptly make and forward a copy of the permit to the Special Office for the Handicapped, Department of Insurance (This provision shall be effective with respect to taxable years beginning on and after January 1, 1979.)"

Editor's Note. — The original provisions of this act became effective for income years beginning on and after January 1, 1974. This printing includes amendments from House Bill 1418, ratified by the General Assembly, 1979 Session.

5—Penalty for Violation of North Carolina State Building Code

General Statutes of North Carolina 143-138(h):

- (h) Violations: Any person who shall be adjudged to have violated this Article or the North Carolina State Building Code shall be guilty of a misdemeanor and shall upon conviction be liable to a fine, not to exceed fifty dollars (\$50.00), for each offense. Each 30 days that such violation continues shall constitute a separate and distinct offense. In case any building or structure is erected, constructed or reconstructed, or its purpose altered, so that it becomes in violation of the North Carolina State Building Code, either the local enforcement officer or the State Commissioner of Insurance or other State Official with responsibility under G.S. 143-139 may, in addition to other remedies, institute any appropriate action or proceedings (i) to prevent such unlawful erection, construction or reconstruction, or alteration of purpose, (ii) to restrain, correct or abate such violation, or (iii) to prevent the occupancy or use of said building, structure or land until such violation is corrected. (1957, c. 1138; 1969, c. 567; c. 1229, ss. 2-6; 1971, c. 1100, ss. 1, 2; c. 476, ss. 84, 128, 138, 152, s. 5.)

It has been established in courts of Law that the Building Code has the force of law. O'Neal, 243 N. C. 714, 92 S. E. 2d 189 (1956); or, Drum V. Bisaner, 252 N. C. 305, 113 S. E. 2nd 560 (1960).

In instances in which there is a violation of the Building Code, no great effort is necessary to prove negligence on the part of the party or parties responsible because it has been established in courts of law that a violation of the Building Code is negligence per se — Lindstrom V. Chesnutt, 15 N. C. App. 15, 189 S. E. 2d 749 (1972).

6—An Act to Amend G.S. 20-37.5 Relative to the Definition of Handicapped and to Amend G.S. 20-37.6 Relative to Parking Privileges for the Handicapped

The General Assembly of North Carolina enacted as Senate Bill 235 in the 1977 session:

G.S. 20-37.5 is hereby rewritten to read as follows:

"§ 20-37.5. Handicapped—definition.—As used in this Article, handicapped shall mean:

- (1) any person who has an obvious physical disability that requires the use of a wheelchair, braces, walkers, or crutches, and those who have lost the use of one or both legs; or
- (2) any person who, as determined and certified by a physician, is severely restricted in mobility by a pulmonary or cardiovascular disability, arthritic condition, orthopedic or neurologic impairment."

§ G.S. 20-7(d) as same appears in the 1975 Cumulative Supplement to the 1975 Replacement Volume 1C of the General Statutes is hereby amended by striking the period after the word "require" and before the word "The" appearing in line 11 thereof and inserting the following words and punctuation: "and shall include such test as is necessary to assure that applicants recognize the 'International symbol of access' for the handicapped (sign R7-8, Manual on Uniform Traffic Control Devices) and devices relative to handicapped drivers as set forth in Article 2A of this Chapter."

§ G.S. 20-88.1 is hereby amended by adding the following provision at the end thereof: "provided that any program supported in whole or in part from the fund established herein shall include instructions as to rights and privileges of the handicapped and the signs and symbols used to assist the handicapped relative to motor vehicles including but not limited to the 'international symbol of accessibility' and symbols and devices as provided in Article 2A of this Chapter."

The General Assembly of North Carolina enacted revisions as Senate Bill 210 in the 1979 Session:

Section 1. G.S. 20-37.6 is rewritten to read as follows:

"§ 20-37.6. Handicapped; drivers and passengers; parking privileges.

- (a) Any vehicle driven by or transporting a person who is handicapped as defined by G.S. 20-37.5 or transporting a person who is visually impaired as defined by G.S. 111-11 as certified by a licensed ophthalmologist, optometrist, or Division of Services for the Blind, may be parked for unlimited periods in parking zones restricted as to length of time parking is permitted. This provision has no application to those zones or during times in which the stopping, parking, or standing of all vehicles is prohibited or which are reserved for special types of vehicles. Any qualifying vehicle may park in spaces designated by aboveground markings as restricted to vehicles distinguished as being driven by or as transporting the handicapped or as transporting the visually impaired.
- (b) Handicapped car owners; distinguishing license plates. If the handicapped or visually impaired person is a registered owner of a vehicle, this vehicle may display a distinguishing license plate. This license plate shall be issued for the normal fee applicable to standard license plates. Any vehicle owner who qualifies for the distinguishing license plate may also receive up to two distinguishing placards as provided for in G.S. 20-37.6(c).
- (c) Handicapped drivers and passengers; distinguishing placards. A person who is either handicapped or visually impaired may apply for issuance of a distinguishing placard to be designed by the Division of Motor Vehicles of the Department of Transportation, in cooperation with the Office for the Handicapped of the Department of Insurance. Any organization which, as determined and certified by the State Vocational Rehabilitation Agency, regularly transports handicapped or visually im-

paired people, may also apply. The placard shall be at least 6 inches by 12 inches in size and shall contain all the information the Division of Motor Vehicles deems necessary for purpose of designation and enforcement. The placard shall be displayed on the driver's side of the dashboard of a vehicle only when the vehicle is being driven by a duly licensed handicapped driver or is being used to transport handicapped or visually impaired passengers. When the placard is properly displayed, all parking rights and privileges extended to vehicles displaying a distinguishing license plate issued pursuant to G.S. 20-37.6(b) shall apply. The Division of Motor Vehicles shall establish procedures for the issuance of the distinguishing placards, may charge a fee sufficient to pay the actual cost of issuance. Two placards may be issued to an applicant on request. Applicants who are organizations may receive one placard for each transporting vehicle.

- (d) Designation of parking places. Designation of parking spaces for the physically handicapped and the visually impaired on streets and in other areas, including public vehicular areas specified in G.S. 20-4.01(32), shall be by the use of sign R7-8, Manual on Uniform Traffic Control Devices. Nonconforming signs in use prior to July 1, 1979, shall not constitute a violation during their useful lives, which shall not be extended by other means than normal maintenance.
- (e) Enforcement of handicapped parking privileges. It shall be unlawful:
 - (1) to park or leave standing any vehicle in a space designated for handicapped or visually impaired persons when the vehicle does not display the distinguishing license plate or placard as provided in this section;
 - (2) for any person not qualifying for the rights and privileges extended to handicapped or visually impaired persons under this section to exercise or attempt to exercise such rights or privileges by the unauthorized use of a distinguishing license plate or placard issued pursuant to the provisions of this section;
 - (3) to park or leave standing any vehicle so as to obstruct a curb ramp or curb cut for handicapped persons as provided for by North Carolina Building Code or as designated in G.S. 136.44.14;
 - (4) for those responsible for designating parking spaces for the handicapped to erect or otherwise use signs not conforming to G.S. 20-37.6(e) for this purpose.

This section is enforceable in all public vehicular areas specified in G.S. 20-4.01(32).

(f) Penalties for violation.

- (1) The penalty for a violation of G.S. 20-37.6(e) (1), (2) and (3) shall be ten dollars (\$10.00) and whenever evidence shall be presented in any court of the fact that any automobile, truck, or other vehicle was found to be parked in a properly designated handicapped parking space in violation of the provisions of this section, it shall be *prima facie* evidence in any court in the State of North Carolina that the vehicle was parked and left in the space by the person, firm, or corporation in whose name the vehicle is registered and licensed according to the records of the Division of Motor Vehicles. No evidence tendered or presented under this authorization shall be admissible or competent in any respect to any court or tribunal except in cases concerned solely with a violation of this section.
- (2) The penalty for violation of G.S. 20-37.6(e)(4) shall be fifty dollars (\$50.00) and whenever evidence shall be presented in any court of the fact that any such nonconforming sign or markings are being used it shall be *prima facie* evidence in any court in the State of North Carolina that the person, firm, or corporation with ownership

of the property where said nonconforming signs or markings are located is responsible for violation of this section. Building inspectors and others responsible for North Carolina State Building Code violations specified in G.S. 143-138(h) where such signs are required by the Handicapped Section of the North Carolina State Building Code, may cause a citation to be issued for this violation and may also initiate any appropriate action or proceeding to correct such violation.

- (3) A law enforcement officer, including security officer who has authority to enforce laws on the property of his employer as specified in G.S. Chapter 74A, may cause a vehicle parked in violation of this section to be towed; and such officer shall be a legal possessor as provided in G.S. 20-161(d)(2). This law enforcement officer, or security officer, shall not be held to answer in any civil or criminal action to any owner, lienholder or other person legally entitled to the possession of any motor vehicle removed from such space pursuant to this section, except where such motor vehicle is willfully, maliciously, or negligently damaged in the removal from aforesaid space to place of storage.
- (4) Notwithstanding any other provision of the General Statutes, the provisions of this section relative to handicapped parking shall be enforced by State, county, city and other municipal authorities in their respective jurisdictions whether on public or private property in the same manner as is used to enforce other parking laws and ordinances by said agencies."

Section 2. This act shall become effective July 1, 1979.

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Appendix E—Protruding Objects

In corridors, in major pedestrian paths and on free-standing columns in such areas, protruding objects which are located less than 6 feet 6 inches from the finished floor and which project more than 4 inches from the wall or column must either:

- (1) continue to the floor, or
- (2) to within 8 inches of the floors, or
- (3) be located in protected areas which are recessed or enclosed by wing walls. Such a protected area should have a contrasting floor texture.



COLORS
LEGEND AND BORDER — GREEN
WHITE SYMBOL ON BLUE BACKGROUND
BACKGROUND — WHITE

R7-8

**SIGN APPROVED FOR USE
 UNDER GENERAL STATUTE 20-37.6**

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